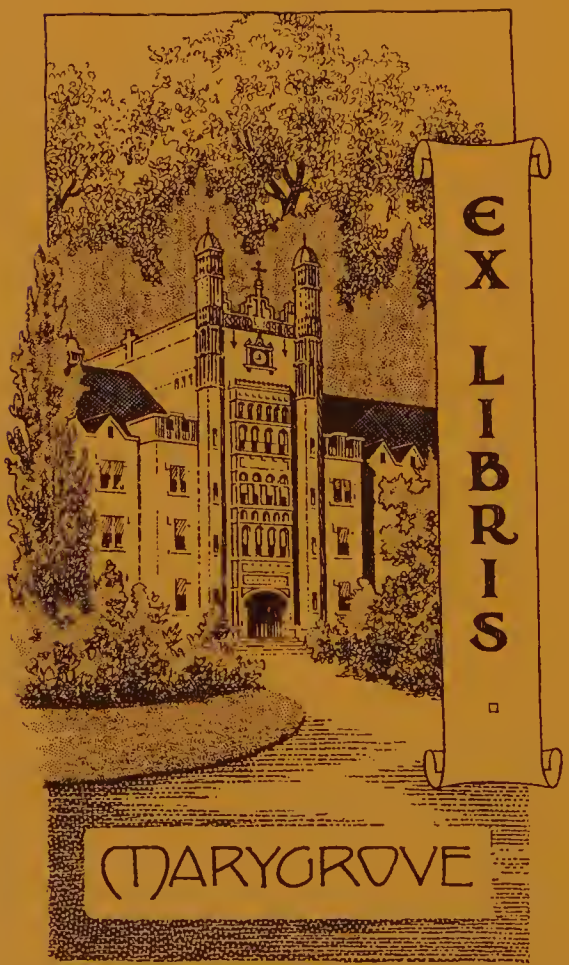
The Child-Voice in Singing

F. E. Howard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THE CHILD-VOICE IN SINGING

TREATED FROM

A PHYSIOLOGICAL AND A PRACTICAL STANDPOINT
AND ESPECIALLY ADAPTED TO SCHOOLS
AND BOY CHOIRS

BY

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PREFACE TO THE SECOND EDITION.

ONE of the most encouraging signs of the growth of musical taste and understanding at the present time as regards the singing of children, is the almost unanimous acquiescence of choirmasters, supervisors, teachers, and others in the idea that children should sing softly, and avoid loud and harsh tones; and the author ventures to hope that the first edition of this book has helped, in a measure at least, to bring about this state of opinion.

It is true that for a long time the art of training children's voices has been well understood by choirmasters of vested choirs, and by many others, but its basis was purely empirical.

Something more, however, than the dictum of individual taste and judgment is needed to convince the educators of our schools of the wisdom

of any departure from established customs and practices. The primary end, then, of the author has been to show a scientific basis for the use of what is herein called the head-voice of the child, and to adduce, from a study of the anatomy and physiology of the larynx and vocal organs, safe principles for the guidance of those who teach children to sing.

The conditions under which music is taught in schools call for an appeal to the understanding first, and taste afterward. These conditions are:

First, the actual teaching of music is done by class-room or grade teachers. The special teacher, who usually supervises also, visits each room, it may be as often as once a week, but in most towns and cities not oftener than once in three or four weeks. At any rate the class form their ideals and habits from the daily lessons, which are given by their grade teacher.

Second, these teachers in the great majority of cases acquire their knowledge of music through teaching it, and must also, it can easily be understood, develop a sense of discrimination in musical matters in the same way. There is a strong

natural tendency in the school-rooms to emphasize the *teaching* of music, or teaching about music, as contrasted with actual singing. The importance of using the voice properly will not suggest itself to many teachers.

It is necessary, then, that this, which is the essence of all instruction in vocal music, should be brought to the attention of the vast army of instructors in our public schools in as convincing a way as is possible. Now the best, and in fact the only way to secure the assent of our educators to a new idea in school work, is to prove its truth. "It is useless to dispute about tastes," and so the less said about harsh tone to a teacher accustomed to hear it daily, and to like it, the better; but prove to this teacher that the harsh tone is physically hurtful to the child, and that for physiological reasons the voice should be used softly and gently, and you have won a convert, one, too, who will quickly recognize the æsthetic phase of the change in voice use. The author knows from observation and experience that children in the public schools can, under existing conditions, be taught good habits of voice use.

There are wonderful possibilities of musical development, in the study of music in schools, and the active interest of every musician and music lover should be exercised to the end that its standard may be kept high.

PREFACE.

IT will be generally admitted by those who are able to judge, that the singing of children is more often disagreeable than pleasant, and yet the charm of childhood and the effect of custom are so potent that many who are keenly alive to any deficiency in the adult singer, listen with tolerance, and it would seem with a degree of pleasure even, to the harsh tones of children.

This tolerance of rough, strident singing by children is as strange as the singing. It cannot be right for children to sing with the coarse, harsh tone that is so common, and it is not right, although there is a prevalent idea that such singing is natural, that is, unavoidable.

This idea is false. The child singing-voice is not rough and harsh unless it is misused. The truth of this statement can be easily demonstrated. If it were not true it would be difficult to justify the teaching of vocal music is

schools, or the employment of boy sopranos in church choirs.

It seems to the author that the chief difficulty experienced by teachers and instructors of singing, in dealing with children, lies in the assumption, expressed or implied, that their voices are to be treated as we treat the voices of adults—adult women; but the vocal organs of the child differ widely from those of the adult in structure, strength and general character. As a consequence, there is a marked difference in voice.

Vocal music has been very generally introduced into the schools of our country during the past few years, and there is evidently a very general and earnest desire that children be taught to sing. It is also the wish of those who are teachers to do their work well.

While there are many books to aid educators upon every other subject taught in public schools, the literature on the voice, particularly the singing-voice, is meagre, and it is believed that some direct, practical hints on this topic may be welcome.

The following pages are the result of several years' experience in teaching, and of careful study of children's voices. The author has attempted to describe the physiological characteristics of the child-voice and to give some practical hints regarding its management. It is sincerely hoped that what is herein written may be useful and helpful to those engaged in teaching children to sing.

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Bridgeport, Conn.

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CHAPTER I.

PHYSIOLOGY OF THE VOICE.

IN former times the culture of the singing-voice was conducted upon purely empirical grounds. Teachers followed a few good rules which had been logically evolved from the experience of many schools of singing.

We are indebted to modern science, aided by the laryngoscope, for many facts concerning the action of the larynx, and more especially the vocal cords in tone-production. While the early discoveries regarding the mechanism of the voice were hopefully believed to have solved all problems concerning its cultivation, experience has shown the futility of attempting to formulate a set of rules for voice-culture based alone upon the incomplete data furnished by the laryngoscope. This instrument is a small, round mirror which is introduced into the throat at such an angle, that if horizontal rays of light are thrown upon it, the larynx, which lies directly beneath, is illuminated and reflected in the mir-

ror at the back of the mouth—the laryngoscope. Very many singers and teachers, of whom Manuel Garcia was the first, have made use of this instrument to observe the action of their vocal bands in the act of singing, and the results of these observations are of the greatest value. Still, as before said, the laryngoscope does not reveal all the secrets of voice-production. While it tells unerringly of any departure from the normal, or of pathological change in the larynx, it does not tell whether the larynx belongs to the greatest living singer or to one absolutely unendowed with the power of song. Also, the subject of vocal registers is as vexing to-day as ever.

While, then, we may confidently expect further and more complete elucidation of the physiology of the voice, there is yet sufficient data to guide us safely in vocal training, if we neglect not the empirical rules which the accumulated experience of the past has established.

The organ by which the singing-voice is produced is the larynx. It forms the upper extremity of the windpipe, which again is the upper portion and beginning of the bronchial

tubes, which, extending downward, branch off from its lower part to either side of the chest and continually subdivide until they become like little twigs, around which cluster the constituent parts of the lungs, which form the bellows for the supply of air necessary to the performance of vocal functions. Above, the larynx opens into the throat and the cavities of the pharynx, mouth, nose, and its accessory cavities, which constitute the resonator for vocal vibrations set up within the larynx.

The larynx itself consists of a framework of cartilages joined by elastic membranes or ligaments, and joints. These cartilages move freely toward and upon each other by means of attached muscles. Also the larynx as a whole can be moved in various directions by means of extrinsic muscles joined to points above and below.

The vocal bands are two ligaments or folds of mucous membrane attached in front to the largest cartilage of the larynx, called the thyroid, and which forms in man the protuberance commonly called Adam's apple; and, extending

horizontally backward, are inserted posteriorly into the aryteniod cartilages, the right vocal band into the right arytenoid cartilage and the left band into the left cartilage. These arytenoid cartilages, by means of an articulation or joint, move freely upon the cricoid, the second large cartilage of the larynx, forming its base, and sometimes called the ring cartilage, from its resemblance in shape to a seal ring. The vocal bands are composed of numberless elastic fibres running in part parallel to each other, and in part interwoven in various directions with each other. The fibres also vary in length; some are inserted into the extending projections, called processes of the arytenoid cartilages, and some extend further back and are inserted into the body of the cartilages. The vocal bands, then, lie opposite each other, on a level, raised a little in front, and with a narrow slit between, called the glottis.

The muscles controlling the action of the vocal bands, and which regulate the mechanism producing sound, are of three groups, viz., abductors (drawing-apart muscles), adductors (drawing-together muscles), and tensors.

The abductors act to keep the bands apart during respiration, while the function of the adductors and tensors is to bring the bands into position for speech or singing. They are, since phonation is at will, voluntary muscles; but it is an interesting fact that the laryngeal muscles of either side invariably act together. It has been shown that it is not possible to move one vocal cord without the other at the same time executing the same movement. It is thus shown that the laryngeal muscles are, to a less extent, under the control of the will than are those of either hand or eye. The rational training of the singing-voice cannot, therefore, proceed upon any theory based upon the voluntary training of the muscles controlling the movements of the vocal cords.

The mucous membrane which lines the larynx is liberally supplied with secreting glands, whose function is to keep the parts moist. Above the vocal bands, another pair of membranous ligaments are stretched across the larynx forming, with its sides and the vocal bands, a pouch or pocket. The upper ligaments are sometimes

called the false vocal cords, but are more properly termed ventricular bands. Their function has occasioned much speculation, but whatever modification of tone they may be supposed to produce, they no doubt protect the true vocal bands and permit their free vibration. The larynx, in the production of sound, may be compared to an organ-pipe. The two vocal cords which act simultaneously and are anatomically alike, when set in vibration by the blast of air coming from the lungs, correspond to the reed of the organ-pipe; the vibration of the cords, producing sound, which is communicated to the air enclosed in the cavities of the chest and head. Pitch of tone is determined by the rapidity of vibrations of the bands, according to acoustical law, and the length, size, and tension of the cords will determine the number of vibrations per second, *i. e.*, their rapidity.

Strength or loudness of tone is determined primarily by the width or amplitude of the vibrations of the vocal membrane, and quality or timbre is determined by the form of the vibration.

The infinitely varying anatomical divergencies in the form and structure of the nasal, pharyngeal and throat cavities, and possibly the composition of the vocal bands, modifies, in numberless ways, the character of tone in speech or song. It is a fascinating topic, but must be dismissed here with the remark that, as those anatomical differences in structure are far less marked in children than in adults, their voices are, in consequence, more alike in quality and strength. It takes long, patient training to blend adult voices, but children's voices, when properly used, are homogeneous in tone.

The voices of boys and girls, prior to the age of puberty, are alike. The growth of the larynx, which in each is quite rapid up to the age of six years, then, according to all authorities with which the writer is conversant, ceases, and the vocal bands neither lengthen nor thicken, to any appreciable extent, before the time of change of voice, which occurs at the age of puberty.

It is scarcely possible, however, that the larynx literally remains *unchanged* through the

period of the child's life, extending from the age of six to fourteen or fifteen years. In point of fact, authorities upon the subject refer only to the lack of growth and development in *size* of the larynx during the period; but *undoubtedly, during these years, there is a constant gaining of firmness and strength, in both the cartilages and their connecting membranes and muscles.* None of the books written upon the voice have even mentioned this most important fact. It bears with great significance upon questions relating to the capacities of the child's voice at different ages, and explains that phenomenon called the "movable break," which has puzzled so many in their investigations of the registers of the child's voice. The constant, though of course extremely slow, hardening of the cartilaginous portions of the larynx, and the steady increase in the strength of its muscles and ligaments is not in the least inconsistent with the previously noted fact, that the vocal bands during this time increase to no appreciable extent in length; for, it may be observed, after the

change of voice, which often occurs with great rapidity, and during which the vocal bands increase to double their previous length in males, that, though the pitch of the voice, owing to increased length of the bands, suddenly lowers, yet not until full maturity is reached, do the laryngeal cartilages attain that rigidity, or the vocal bands that ready elasticity essential to the production of pure, resonant voice. Yet, during these years, while the voice is developing, the vocal bands remain unchanged in *length*. Even in those cases where the voice changes slowly in consequence of the slow growth in length and thickness of the vocal cords, it takes several years, after laryngeal development has ceased, for the voice to attain its full size and resonance.

Furthermore, the continual increase in strength and firmness of the larynx from six years onward to puberty, is consistent with the constant growth in strength and firmness of tissue characterizing the entire body. It is again proven by the continual improvement in the power and timbre of the tone through this peri-

od, always premising, be it understood, that the voice is used properly, and never forced beyond its natural capabilities. The voice, at the age of eleven or twelve, is far stronger, and is capable of more sustained effort than at the age of six or seven years, and, for the year or two preceding the break of voice, the brilliance and power of boys' voices, especially in the higher tones, is often phenomenal, and in all cases is far superior to that of previous years.

The resemblance between the voices of boys and girls, a resemblance which amounts to identity, save that the voices of boys are stronger and more brilliant in quality, disappears at puberty.

Among the physical changes which occur at this period is a marked growth of the larynx, sufficient to alter entirely the pitch and character of the boy's voice. As a female larynx is affected to a lesser extent, the voices of girls undergo little change in pitch, but become eventually more powerful, and richer in tone.

This break of the voice, as it is called, occurs at about the age of fifteen years in this climate,

but often a year or two earlier, and not infrequently a year or two later. The growth of the larynx goes on, with greater or less rapidity, varying in different individuals, for from six months to two or three years, until it attains its final size. In boys, the larynx doubles in size, and the vocal bands increase in the proportion of five to ten in length. This great gain in the length of the vocal cords is due to the lateral development of the larynx, for the male larynx, in its entirety, increases more in depth than in height. The result is a drop of an octave in the average boy's voice, the longer bands producing lower tones. The change in size in the female larynx is in the proportion of five to seven, and the increase is in height instead of depth or width as in the male larynx. The vocal cords of women are, therefore, shorter, thinner and narrower than are those of men.

The reason assigned for the peculiar antics of the boy's voice, during the break, is unequal rapidity in the growth and development of the cartilages and of the muscles of the larynx. The

muscles develop more slowly than do the cartilages, and so abnormal physical conditions produce abnormal results in phonation.

No further changes occur in the laryngeal structure until middle life, when ossification of the cartilages commences. The thyroid is first affected, then the cricoid, and the arytenoids much later.

The consequent rigidity of the larynx occasions diminished compass of the singing-voice, the notes of the upper register being the first to disappear. In some few cases of arrested development, the voice of the man retains the soprano compass of the boy through life.

CHAPTER II.

REGISTERS OF THE VOICE.

IT may be observed, in listening to an ascending series of tones sung by an untrained or by a badly-trained adult voice, that at certain pitches the tone-quality undergoes a radical change; while a well-trained singer will sing the same series of tones without showing any appreciable break or change in tone-quality, although the highest note will present a marked contrast in timbre to the lowest. The breaks or changes in register so noticeable in the untrained voice are covered or equalized in the voice trained by correct methods. These breaks in both male and female voices occur at certain pitches where the tone-producing mechanism of the larynx changes action, and brings the vocal bands into a new vibratory form. "A register consists of a series of tones produced by the same mechanism."—Emil Behnke in "Voice, Song, and Speech." G. Edward Stubbs, in commenting upon the above definition, says:

"By mechanism is meant the action of the larynx which produces *different sets of vibrations*, and by register is meant the range of voice confined to a given set of vibrations. In passing the voice from one register to another, the larynx changes its mechanism and calls into play a different form of vibration."

The number of vocal registers, or vibratory forms, which the vocal bands assume, is still a matter of dispute, and their nomenclature is equally unsettled. The old Italian singing-masters gave names to parts of the vocal compass corresponding to the real or imaginary bodily sensations experienced in singing them; as chest-voice, throat-voice, head-voice. Madame Seiler, in "The Voice in Singing," gives as the result of original investigations with the laryngoscope five different actions of the vocal bands which she classifies as "first and second series of the chest-register," "first and second series of the falsetto register" and "head-register." Browne and Behnke, in "Voice, Song, and Speech," divide the male voice into three registers, and the female into

five. They are termed "lower thick," "upper thick," "lower thin," "upper thin" and "small." Other writers speak of three registers, "chest," "medium" and "head," and still others of two only, viz., the chest and the head.

Modern research has shown what was after all understood before, that, if the vibratory form assumed by the vocal bands for the natural production of a certain set of tones is pushed by muscular exertion above the point where it should cease, inflammation and weakening of the vocal organs will result, while voice-deterioration is sure to follow. A physiological basis has reinforced the empirical deductions of the old Italian school. In dealing with children's voices, it is necessary to recognize only two registers, the thick, or chest-register, and the thin, or head-register. Further subdivisions will only complicate the subject without assisting in the practical management of their voices. Tones sung in the thick or chest-register are produced by the full, free vibration of the vocal bands in their entire length, breadth and thick-

ness. The tones of the thin or head-register result from the vibration of the vocal bands along their inner edges alone.

We may then conclude from the foregoing that *children up to the age of puberty, at least in class or chorus singing, should use the thin or head-register only.*

1st. It is from a physiological standpoint entirely safe. The use of this register will not strain or overwork the delicate vocal organs of childhood.

2d. Its tones are musical, pure and sweet, and their use promotes the growth of musical sensibility and an appreciation of beauty in tone.

3d. The use of the thick or chest-voice in class-singing is dangerous. It is wellnigh impossible to confine it within proper limits.

It is unnecessary to discuss the second point. Anyone who has noted the contrast between the harsh quality of tone emitted from childish throats when using the chest-voice, and the pure, flute-like sound produced when the head-tones are sung will agree that the last is music and the first noise, or at any rate very noisy, barbaric music.

The third point, if true, establishes the first, for, if the chest-voice cannot be safely used, it follows that children must use the head-register or stop singing. It must be said, before proceeding further, that it is not denied that the thick voice can be used by children without injury, if properly managed; that is, if the singing be not too loud, and if it be not carried too high. It is also fully recognized, that, when theoretically the head-voice alone is used, it yet, when carried to the lower tones, insensibly blends into the thick register; but if this equalization of registers is obtained so completely that no perceptible difference in quality of voice can be observed, why then the whole compass is practically the thin or head-register.

Now, can the thick voice be used in school-singing, and confined to the lower notes? And is it fairly easy to secure soft and pure vocalizations in this register? Let the experience of thousands of teachers in the public schools of this and other lands answer the last question.

It would be as easy to stop the growth of the average boy with a word, or to persuade a crowd

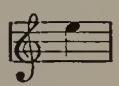
of youngsters to speak softly at a game of base-ball, as to induce them, or girls either for that matter, to use the voice gently, when singing with that register in which it is possible to push the tone and shout.

There should be some good physiological reason for the habitual recourse to the strident chest-voice so common with boys, and nearly as usual with girls. And there is a good reason. It is *lack of rigidity in the voice-box or larynx.* Its cartilages harden slowly, and even just before the age of puberty the larynx falls far short of the firmness and rigidity of structure, that characterize the organ in adult life. It is physically very difficult for the adult to force the chest-voice beyond its natural limits, which become fixed when full maturity of bodily development is reached, but the child, whose laryngeal cartilages are far more flexible, and move toward and upon each other with greater freedom, can force the chest-voice up with great ease. The altitude of pitch which is attained before breaking into the thin register is with young children regulated by the

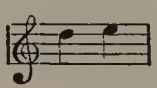
amount of muscular exertion they put forth, Even up to the change of voice, boys can often force the thick register several notes higher than women sopranos.

It must be borne in mind that the thick voice is produced by the full, free vibrations of the vocal bands in their entire length, breadth and thickness.

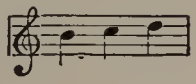
Imagine children six years of age carrying tones formed in this manner to the extreme limit of their voice; yet they do it. The tone of infant classes in Sunday-schools, and the tone of the primary schools, as they sing their morning hymns or songs for recreation, is produced in nine hundred and ninety-nine cases out of a thousand in exactly the way set forth. If the vocal bands of children were less elastic, if they were composed of stronger fibres, and protected from undue exertion by firm connecting cartilage; in short, if children were not children, such forcing would not be possible. If it were not for the wonderful recuperative power of childhood, serious effects would follow such vocal habits.

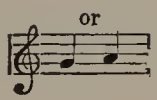
We are now prepared to understand that common phenomenon of the child-voice, termed the "movable break." Every public school teacher who has had experience in teaching singing must be familiar with the meaning of the term, though possibly unaware of it. Allusion has already been made to the fact that, in primary grades, the thick quality, if permitted, will be carried as high as the children sing, to

for example. If they are required to sing the the higher tones lightly, then the three or four tones, just below the pitch indicated, will be sung in a thin quality of voice. The place of the break or the absence of any break at all will depend upon the degree of loudness permitted.

Pass now to a grade in which the pupils average eleven years of age. These can use the thick tones as high as



only with great exertion, and, if required to sing softly, will pass into the thin register at a lower

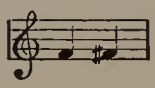
pitch than the primary class. Now, go to a room where the children range in age from thirteen to fifteen years. The girls will still use thick tones up to

The pitch at which the break occurs will vary in individual cases according to physique or ambition to sing well; but the boys (excluding those whose voices have begun to break) will manifest the utmost repugnance to singing the higher notes. "Can't sing high" will be the reply when you ask them why they do not sing. And they are correct. They cannot, not with the thick voice. Even when putting forth considerable exertion, they will pass to the thin voice at



and lower, if they sing softly. This phenomenon, then, is the "movable break" of the child-voice. The pitch at which the child-voice passes from the thick to the thin voice depends first upon the age; second, upon the amount of physical

energy employed, and third, upon the bodily vigor of the child.

It may also be added that boys' voices break lower than girls' during the year or two preceding change of voice. When, now, it is remembered that the adult female voice leaves the chest-register at



it will be admitted by everyone who has had actual experience in class singing in schools or elsewhere, that the facts set forth in reference to the ability of the child to carry the thick voice from one to eight tones higher than the adult, has a very important bearing on the subject of training children's voices.

But, is it physically injurious? It may be said that, as regards upward forcing of the vocal register, authorities upon the adult voice are united. Leo Kofler, in "The Art of Breathing," p. 168, says: "I have met female trebles that used this means of forcing up the chest-tones as high as middle A, B, C, and (one can hardly conceive of the physical possibility of so

doing) even as far as D and E flat. The reason why this practice is so dangerous lies in the unnatural way in which the larynx is held down in the throat, and in the force that is exercised by the tension muscles of the vocal ligaments and the hard pressure of the muscles of the tongue-bone. . . I have examined with the laryngoscope many ladies who had the habit of singing the chest-tones too high, and, without exception, I have found their throats in a more or less diseased condition. Laryngitis, either alone or complicated with pharyngitis, relaxation of the vocal ligaments, and sometimes paralysis of one of them, are the most frequent results of this bad habit. If a singer is afflicted with catarrhal trouble, it is always aggravated by this abominable method of singing."

Emma Seiler, in "The Voice in Singing," p. 54, after describing the action of the vocal ligaments in the production of the chest-voice and alluding to the fact that such action can be continued several tones higher than the proper transitional point, goes on: "But such tones, especially in the female voice, have that rough

and common timbre, which we are too often compelled to hear in our female singers. The glottis also in this case, as well as parts of the larynx near the glottis, betrays the effort very plainly; as the tones ascend, they grow more and more red. *Thus, as at this place in the chest-register, there occurs a visible and sensible straining of the organs, so also is it in all the remaining transitions, as soon as the attempt is made to extend the action by which the lower tones are formed beyond the given limits of the same.*" And again: "In the ignorance existing concerning the natural transitions of the registers, and in the unnatural forcing of the voice, is found a chief cause of the decline in the art of singing, and the present inability to preserve the voice is the consequence of a method of teaching unnatural, and, therefore, imposing too great a strain upon the voice." Quotations innumerable might be made, to give more emphasis, were it needed, to the evils of register forcing.

The only point remaining is the one very often raised. Is it not *natural for children* to use

the chest or thick voice? If their vocal organs are so flexible, may they not carry such tones higher than adults, and younger children higher than those a little older, and so on?

It is quite obvious, for reasons herein set forth, that children do not experience the same degree of difficulty in continuing the use of the thick voice to their higher tones as do adults, but as to the effect upon their vocal organs there need be no reasonable doubt. A. B. Bach, in "Principles of Singing," p. 142, says: "If children are allowed to sing their higher notes forte, before the voice is properly equalized, it will become hard, harsh and hoarse, and they will fail in correct intonation. A mistake in this direction not only ruins the middle register but destroys the voice altogether. The consequence of encouraging forte singing is to change a soprano rapidly to an alto; and they will generally sing alto equally forte because their vocal cords have lost their elasticity through overstraining and the notes will no longer answer to piano. . . . . The fact is that reckless singing often breaks tender voices and

breaks them forever." It may be observed that the writer cited evidently accepts the same classification in register for children and adult women's voices, but this does not make the above extract any less applicable. The baneful effects of forcing the voice is clearly set forth. How to avoid it is another matter.

Leo Kofler, in the work previously mentioned, p. 168, refers to this point as follows: "It frequently happens that the tones of the lower range, or the so-called chest-tones, are forced up too high into the middle range. This bad habit is often contracted while the singers are quite young. Boy trebles have this habit to an unendurable degree, usually screaming those horrible chest-tones up to middle C. Of all bad habits, this one is the most liable to injure a voice and to detract from artistic singing."

To cite Madame Seiler once more, p. 176: "While it often happens that at the most critical age while the vocal organs are being developed, children sing with all the strength they can command. Boys, however, in whom the larynx at a certain period undergoes an entire

transformation, reach only with difficulty the higher soprano or contralto tones, but are not assigned a lower part until perceiving themselves the impossibility of singing in this way, they beg the teacher for the change, often too late, unhappily, to prevent an irreparable injury. Moderate singing without exertion, and above all things, within the natural limits of the voice and its registers, would even during the period of growth be as little hurtful as speaking, laughing or any other exercise which cannot be forbidden to the vocal organs."

Browne and Behnke, who separately and together have given most valuable additions to the literature of the voice, in a small book entitled "The Child-Voice," have collated a large number of answers from distinguished singers, teachers and choir-trainers to various questions relating to the subject. The following citation is from this interesting work, p. 39: "The necessity of limiting the compass of children's voices is frequently insisted upon, no attention whatever being paid to *registers;* and yet infinitely more mischief is done by forcing the

registers than would be accomplished by allowing children to exceed the compass generally assigned to them, always provided that the singing be the result of using the mechanism set apart by nature for different parts of the voice."

There can really be no doubt that the use of the chest or thick voice upon the higher tones is injurious to a child of six years, or ten years, or of any other age. The theory that in the child-voice the breaks occur at higher fixed pitches than in the adult is shown to be untenable. The fact would seem to be that comparisons between the registers of the child and the adult voice are misleading, since the adult voice has fixed points of change in the vocal mechanism, which can be transcended only with great difficulty, while the child-voice has *no fixed points of change in its vocal registers.* This point must not be overlooked. It is the most important fact connected with the child-voice in speech or song. It is the fundamental idea of this work and is the basis for whatever suggestions are herein contained upon the management of the child-voice. The rigid-

ity of the adult larynx, the strength of the tensor and adductor muscles and the elastic firmness of the vocal ligaments, are to those of the child as the solid bony framework and strongly set muscles of maturity are to the imperfectly hardened bones and soft muscles of childhood. Nature makes no fixed limits of the vocal registers until full maturity is reached. A fixed register in a childish throat involving a completely developed larynx would be a startling anomaly. The laryngeal muscles of childhood are not strong. They are weak. Most of the talk about strength of voice in children is utter nonsense. When the muscles and other parts concerned in tone-production perform their physiological functions in a healthy manner, that is, in such a way that no congestion, or inflammation or undue weariness will result, the singing-tone of the child will never be loud. High or low, under these conditions it must perforce be soft, and if proper directions be followed the quality will be as good as the voice is capable of.

Everyone who has observed has also noticed

the contrast in the lower tones of children and women. The chest-voice of the woman, which she uses in singing her lower register, is normally very beautiful in its quality. Its tones are the product of a perfectly developed, full-grown organ. The chest-voice of the child is an abnormal product of a weak, growing, undeveloped organ. It possesses, even when used carefully, little of the tone tints of the adult voice. The chest-voice belongs to adult life, not to childhood. The so-called chest-voice of children is only embryonic. It cannot be musical, for the larynx has not reached that stage of growth and development where it can produce these tones musically. The constant use of this hybrid register with children is injurious in many ways. Its use is justified in schools merely through custom, and it can not be doubted that as soon as the attention of teachers is called to its evils, they will no longer tolerate its use.

The usual analogies then which are drawn between the adult female voice and the child-voice, in so far as they imply a similar physiological con-

dition of the vocal organ and similar vocal training, are not only useless, but misleading. He who tries to train the average child-voice on the theory of two, three or five clearly-defined breaks, or natural changes in the forms for vocal vibration assumed by the vocal bands will get very little help from nature.

With due consideration it is said that it is a harder task to train children's voices properly than to train the voices of adults. Where nature is so shifty in her ways, it requires keen penetration to discover her ends.

The child-voice is a delicate instrument. It ought not to be played upon by every blacksmith.

CHAPTER III.

HOW TO SECURE GOOD TONE.

THE practical application of the teaching of the two preceding chapters may at first thought seem to be difficult. On the contrary, it is quite easy. We have favorable conditions in schools; graded courses in music, regular attendance, discipline, and women and men in charge who are accustomed to teach. No more favorable conditions for teaching vocal music exist than are to be found in a well-organized and well-disciplined school. The environments of both pupils and teachers are exactly adapted

to the ready reception of ideas, on the one hand, and the skilful imparting of them, on the other.

The abilities of the trained teachers of to-day are not half appreciated. They often possess professional skill of the highest order, and the supervisor of music in the public schools may count himself exceedingly fortunate in the means he has at hand for carrying on his work. But knowledge of voice is no more evolved from one's inner consciousness than is knowledge of musical notation, or of the Greek alphabet; therefore, if regular teachers in the school permit singing which is unmusical and hurtful, it is chiefly because they are following the usual customs, and their ears have thereby become dulled, or it may be that even if the singing is unpleasant to them, that they do not *know how* to make it better. As before said, all energies have so far been directed to the teaching of music reading. Tone has been neglected, forgotten, or at most its improvement has been sought spasmodically. The carelessness regarding tone, which is so prevalent, is due to an almost entire absence of good teaching on the subject of the child-voice

—to ignorance, let us say—not altogether inexcusable.

Now and then, when listening to the soprani of some well-trained boy-choir, sounding soft and mellow on the lower notes and ringing clear and flutey on the higher, it may have dimly occurred to the teacher of public school music that there might be things as yet unheard of in his musical philosophy, a vague wonder and dissatisfaction, which has slowly disappeared under the pressure of routine work.

When one reflects upon the results which the patience and skill of our regular teachers have accomplished in teaching pupils to read music; it can never be reasonably doubted that the same patience and skill, if rightly directed, will be equally successful in teaching a correct use of the voice.

Two principles form the basis of good tone-production as applied to children's voices.

1st. *They must sing softly.*

2d. *They must be restricted in compass of voice.*

If these two rules are correctly applied in

each grade, if pupils sing *softly enough*, and carry their tones neither too high nor too low, always taking into account the grade or average age of the class, then the voice will be used *only in the thin or head-register*, and the tones of the thick or chest-register will never be heard. But the two rules must be as one, for if soft singing be carried too low with infant voices, they are forced to use the thick tones; and children of all ages, even if singing within the right compass of voice, will use the thick register if permitted to sing too loud.

There is nothing particularly original in insisting upon soft singing from children. The writer has never seen a book of school music that does not mention its desirability, nor hardly a reference to the child-voice in the standard works or writings of the day of which this idea has not formed a part.

The general direction "Sing softly" is good so far as it goes, but is, first, indefinite. Softly and loudly are relative terms, and subject to wide diversity of interpretation. The pianissimo of a cultivated singer is silence compared

to the tone emitted by vocalists of the main strength order, when required to produce soft tone. Secondly, the direction is seldom or never found coupled with instruction upon the vocal compass of children. Hence, it does not seem very strange that the injunction "Sing softly" has not corrected vocal errors in school singing.

It is not easy, it is even impossible, to accurately define soft singing, and no attempt will be made further than to describe as clearly as may be the degree of softness which it is necessary to insist upon if we would secure the use of the thin or head register.

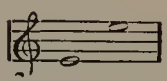
The subject of register has already been discussed, but it may not be amiss to repeat just here that in the child larynx as in the adult the head-register is that series of tones which are produced by the vibration of the thin, inner edges of the vocal band. If breathing is natural, and if the throat is open and relaxed, no strain in singing this tone is possible. It is evident in a moment that children with their thin, delicate vocal ligaments can make this tone

even more easily than adult sopranos, whose vocal ligaments are longer and thicker; and it is also perfectly evident that no danger of strain to the vocal bands is incurred when this voice is used, for all the muscles and ligaments of the larynx are under far less tension than is required for the production of tones in the thick register.

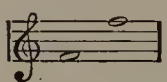
It must also be remembered in connection with this fact, that children often enter school at five years of age, and that according to physiologists the larynx does not reach the full growth in *size*, incidental to childhood until the age of six years. We must then be particularly careful with infant classes—for the vocal bands of children prior to six years of age are very, very weak. Speaking of infant voices, Mr. W. M. Miller, in Browne and Behnke's afore-mentioned work, "The Child-Voice," is quoted as saying: "Voice-*training* cannot be attempted, but voice-*destruction* may be prevented. Soft singing is the cure for all the ills of the vocal organs." It would be hard to find a more terse or truthful statement than the first sentence of the above as

regards the voices of little children from five to seven or eight years of age. It is unmitigated foolishness to talk about vocal training as applied to children of that age. The voice-culture which is suited to little children is that sort of culture which promotes growth—food and sleep and play. As well train a six months' old colt for the race track, as attempt to develop the voice of a child of six or seven years with exercises on *o*, and *ah*, *pianissimo* and *fortissimo*, *crescendo*, *diminuendo* and *swell*. Their voices must be used in singing as *lightly as possible*. This answers the question, how softly should they sing?

Children during the first two or three years of school-life may be permitted to sing from



or if the new pitch is used from



Two or three practical difficulties will at once occur to the teacher with reference to songs and exercises which range lower than E first line.

and with reference to the customary teaching of the scale of C as the initial step in singing.

The subject of compass of children's voices will be discussed at some length in a following chapter, but for the present it may be said that the difficulty with songs and exercises ranging below the pitch indicated may be overcome easily by pitching the songs, etc., a tone or two higher. If they then range too high, don't sing them, sing something else. In teaching the scale, take E or F as the keynote, and sing either one or the other of those scales first. The children must sing as softly as possible in all their singing exercises, whether songs or note drill. They should be taught to open their mouths well, to sit or stand erect as the case may be, and under no circumstances should the instructor sing with them. Too much importance can hardly be given to this last statement. If teachers persist in leading the songs with their own voices and in singing exercises with the children, they can and most probably will defeat all efforts to secure the right tone in either the first, or any grade up to that in which changed

voices are found. This sounds rather cynical, and might seem to imply that instructors cannot sing well. The meaning, however, is quite different.

The quality or timbre of the adult woman's voice is wholly unlike that of the child's thin register. Her medium tones, even when sung softly, have a fuller and more resonant quality, and if she lead in songs, etc., the pupils, with the proverbial aptitude for imitation, will inevitably endeavor to imitate her tone-quality. They can only do so by using the thick register, which it is so desirable to utterly avoid. It is worse yet for a man to lead the singing. Neither should one of the pupils be allowed to lead, for not only will the one leading force the voice in the effort, but a chance is offered to any ambitious youngster to pitch in and outsing the leader; from all of which follows naturally the idea that all prominence of individual voice must be discouraged, forbidden even. The songs and exercises must be led, it is true, but by the teacher and *silently*. Then, again, unless the teacher is silent she cannot be

a good critic. Think of a voice-trainer singing each solfeggio and song with his pupil during the lesson.

Certainly it is often necessary for the teacher to sing, but only to illustrate or correct, or to teach a song. In the last, if the teacher will remain silent while the class repeat the line sung to them, and will proceed in the same way until the whole is memorized by the class, not only will time be economized, but the tone can be kept as soft as is desired and individual shouters checked. Once more it must be insisted that soft, very soft singing only, can be allowed. And this applies to the entire compass used. Children of the ages mentioned can, as has already been shown, break from the thin to the thick voice at any pitch, it only requiring a little extra push for the upper tones.

Finally, as an excellent test to settle if the tone is soft enough to ensure the use of the thin register beyond doubt, require the class to sing so that no particular voice can be distinguished from the others, which will make the tone as that of one voice, and perhaps lead you to doubt

if all are singing, until convinced by the movement of their mouths. The tone will seem pretty light and thin, but will be sweet as the trill of a bird.

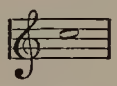
To Distinguish Registers.

The difficulty which may be experienced in attempting to distinguish between the two registers must not be disregarded. If the voices of children were never entrusted to any save professional voice-teachers, a very few hints upon their management would perhaps suffice, for the ear of the teacher of voice and singing is presumably trained in the differentiation in tone-quality occasioned by changes in the action of the vocal mechanism. When, however, we reflect that of the thousands of teachers in our public schools very few, indeed, have ever heard of voice-registers, and much less been accustomed to note distinctions in tone-timbre between them, the need of a detailed plan of procedure is seen.

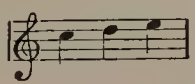
It is safe to assert that anyone with a musical ear can with a little patience learn to distin-

guish one register from another. There is no vocal transition so marked as the change from thick to thin register in the child-voice, unless it be the change from the chest to the head or falsetto in the man's voice. Suppose we take a class of say twelve from the fourth year averaging nine years of age. Give them the pitch of C.

Require them to sing up the scale loudly. As they reach the upper tone



stop them and ask them to sing that, and the two tones above *very softly.* The change in tone will be quite apparent. The tone used in ascending the scale of C, singing loudly, will be reedy, thick and harsh—the thick register. The tone upon



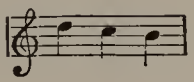
singing very softly, will be flute-like, thin and clear—the thin register. Again, let them sing

E first line with full strength of voice and then the octave lightly, or have them sing G second line, first softly and then loudly, or, again, let them ascend the scale of E singing as light a tone as possible, and then descend singing as loud as they can. In each case the change from thick to thin voice, or vice versa, will be illustrated; and in singing the scale of E as suggested, the break of voice a little higher or lower in individual cases will be noticed. It is quite possible that some members of the class may use the thick voice on each tone of the descending scale beginning with the highest.

Care must always be taken that in singing softly the mouth be well opened. The tendency will be to close it when required to sing lightly, but the tone, then, will be nothing but a humming noise. It may as well be said here that a great deal of future trouble and labor may be avoided, if, from the first, pupils are taught to keep the mouth fairly well opened, and the lips sufficiently apart to permit the free emission of tone. Let the lower jaw have a loose hinge, so to speak. It is well enough to

point out also that when the lower jaw drops, the tongue goes down with it, and should remain extended along the floor of the mouth with the tip against the teeth while vowel-sounds are sung.

There are many other ways than those already suggested, in which the distinction between the registers may be shown. Let the whole class sing



softly, and then the next lower tone or tones loudly. The thick quality will be heard easily enough. Or from the room select a pupil, one of the class who has, in the phraseology of the schoolroom, a good voice, to sing the scale of D ascending and descending. If the pupil be not timid, and the kind referred to are not usually, and if loud singing has been customary, the tone will be coarse and reedy throughout. Now let another pupil who has what is called a light voice, and who daily sits modestly in the shade of his boisterous brother, sing the same scale. The tone in all likelihood

will be pure and flutey, at least upon the higher notes.

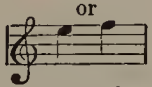
Take the scale of E now and have each pupil in the room sing it alone. There may certainly be some who cannot sing the scale, and if the daily singing has been harsh, the number may be large, but postponing the consideration of these so-called monotones and directing the attention wholly to the quality or timbre of tone used by the different pupils, it may be observed that some use the thick voice only, some use the thin voice, others break from the thick voice into the thin at one pitch as they ascend, and from the thin to thick voice at a lower pitch as they descend; and if required to sing again, may perhaps pass from one voice to the other at different pitches. Others again may exhibit a blending of the two voices at certain pitches. In fact, unless the degree of power is suddenly changed, a break from the thick tone upon one note to the thin tone upon the next note or vice versa seldom occurs.

The same illustrative tests may be applied to children of any grade, or of any age up to the

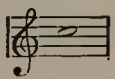
period when the voice changes, only the break will occur lower with older pupils. Suppose, now, the teacher has obtained a tolerably clear idea of the differences between the registers; she should then arouse a perception of tone-quality in her pupils. Let the beauty of soft, light tone as contrasted with loud, harsh tone be once clearly demonstrated to a class, and the interest and best efforts of every girl or boy who has the germ of music within them will be enlisted. Those who grumble because they may not sing out good and loud may be disregarded, and with a clear conscience. The future will most likely reveal such incipient lovers of noisy music as pounders of drums and blowers of brass.

Select now a number of the class who upon trial have been found to have light, clear voices and who are not prone to shout. Let them sing

or



and then slowly descend the scale of E or F, singing each tone softly, and those below C



very lightly. This will insure the uninterrupted

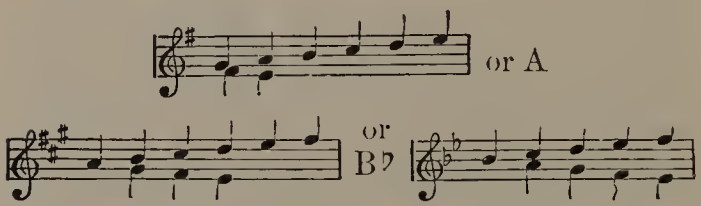
use of the thin register to the lowest note. Let them now sing up and down the scale several times, observing the same caution when notes below C or B are sung, and also insisting that no push be given to the upper notes. Now, first excusing monotones, let the other pupils in the room sing first down the scale and then up, imitating the quality and softness of tone of the picked class. Recollect, you are asking something of your pupils which it is perfectly easy for them to do. It may be that the strength of well-formed habits stands opposed to the change, but, on the other hand, every musical instinct latent, or partly awakened, is becoming alert and proving the truth of your teaching better and faster than can any finespun reasoning. Illustrate the difference in tone-quality between the thick and thin register as often as it is necessary, to show your pupils what you wish to avoid and how you wish them to sing. When in doubt whether or not the thin quality is being sung, require softer singing until you are sure. It is better to err upon the side of soft singing than to take any chances.

In time teachers will become quick to detect the change in register, and in time also the pupils who are trained to sing in the thin voice will yield to the force of good habit, as they once did to bad habit, and seldom offend by too loud or too harsh tone.

The inquiry may naturally have arisen ere this: Are syllables, i. e., *do*, *re*, *mi*, etc., to be used, or the vowel-sounds? It is immaterial from the standpoint of tone-production, whether either or both are used. Until children are thoroughly accustomed to sing softly, they will be kept upon the thin register more easily when singing with a vowel-sound, than when using the syllables. The reason is that the articulation of the initial consonants of the syllables requires considerable movement of the organs of speech, viz., the tongue, lips, etc., and these movements are accompanied by a continually-increasing outrush of air from the lungs, occasioning a corresponding increase in the volume of sound. Adult voices show the same tendency to increase the volume of tone when first applying words to a passage practiced pianissimo

with a vowel-sound. It is advisable then to sing scales and drill upon them with a vowel-sound, and to recur to the same drill for a corrective, when a tendency to use the thick voice in singing note exercises appears.

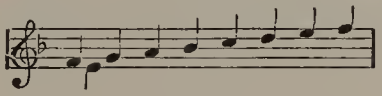
Scale drill may be carried on as follows: If the scales are written upon a blackboard staff, they may from day to day be in different keys. It is a very easy matter to extend the scale neither above nor below the pitches within which it is desired to confine the voice. For example, the scale of E or F may be written complete, that of G as follows:



and so on. Now let the teacher with a pointer direct the singing of the class upon the selected scale in such a manner as to secure the desired result in tone, and incidentally a familiarity with pitch relations, etc. Of course, if charts are used the trouble of writing scales is saved, only it is advised that the notes lying outside the

prescribed compass be omitted in the lower grades entirely, and in the upper until the habit of good tone is established, when, of course, the tones may be carried below E with safety. The extent and variety of vocal drill which can be given with a pointer and a scale of notes is wonderful; but nothing more need be now suggested, than those exercises which are peculiarly intended to secure good tone, and fix good vocal habits, although it must be evident that all such drill is very far-reaching in its effects.

A few exercises which are very simple are here suggested. First, taking the scale of



for example. Let the teacher, after the pitch of the keynote is given to the class, place the pointer upon F, and slowly moving it from note to note, ascend and descend the scale, the class singing a continuous tone upon some vowel, *o* for instance. The pointer should be passed from note to note in such a manner that the eye can easily follow it. If the notes are indicated to the class by a series of dabs at the chart or

blackboard, the pointer each time being carried away from the note several inches, and then aimed at the next note and so on, the eye becomes weary in trying to follow its movements, and the mental energy of the pupils, which should be concentrated upon tone, is wasted in watching the gyrations of the pointer. If, on the other hand, the pointer is made to glide from note to note, passing very quickly over intervening spaces, then the eye is not wearied in trying to follow it. These directions may seem pretty trivial, but practical experience has proved their importance. The vowel *o* is suggested because it has been found easier to secure the use of the head-register with this vowel than with *ah*, when it is sought to break up the habit of singing loudly and coarsely.

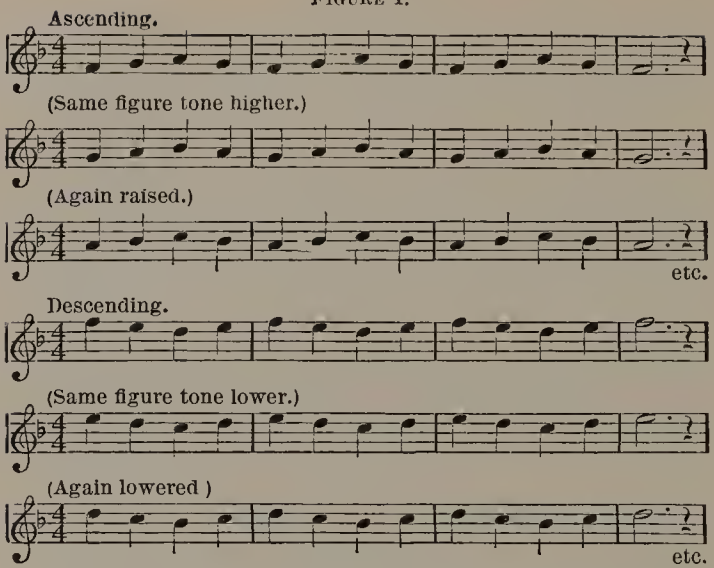
The term continuous tone used to describe the style of singing desired is meant literally. If the class in this scale-drill all stop and take breath at the same time, making frequent breaks in the continuity of the tone, there will be found with each new attack a tendency to increase in volume of sound. For certain reasons,

which will be explained in the chapter on breath-management, the attack of tone will become more and more explosive, demanding constant repression. This irritating tendency may, in a short time, be almost entirely overcome, if, instead of letting the class take breath and attack simultaneously, each pupil is told to take breath only when he or she is obliged to, and then at once and softly to join again with the others. This will effect the continuous tone, useful not alone as a corrective for the tendencies to loud singing, but also to establish good breathing-habits.

This same swift, silent breath-taking and succeeding soft attack of tone must be insisted upon in *all* school singing.

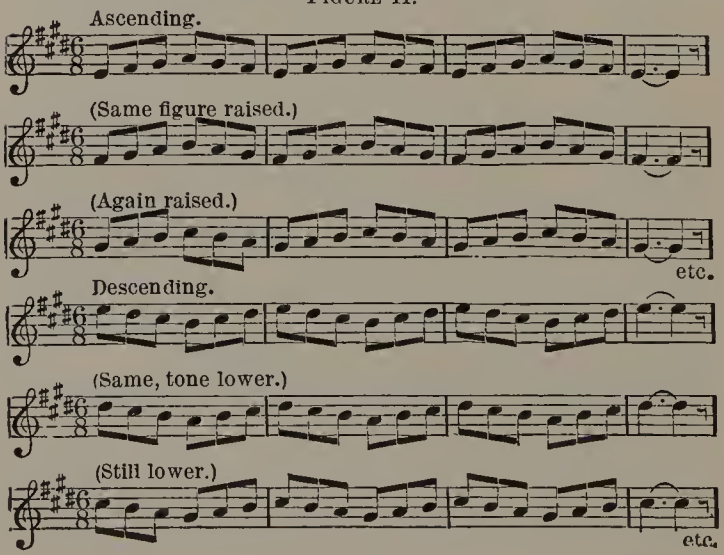
The exercise already suggested is slow singing or rapid singing of the scale with the vowel *o* softly, and with continuous tones. Other simple exercises are obtained by repetitions of the following exercise figures at higher or lower pitches throughout an entire scale, or parts of a scale, ascending and descending progressively:

FIGURE I.



The next figure, in which the voice ascends or descends four tones at each progressive repetition, has a different rhythm.

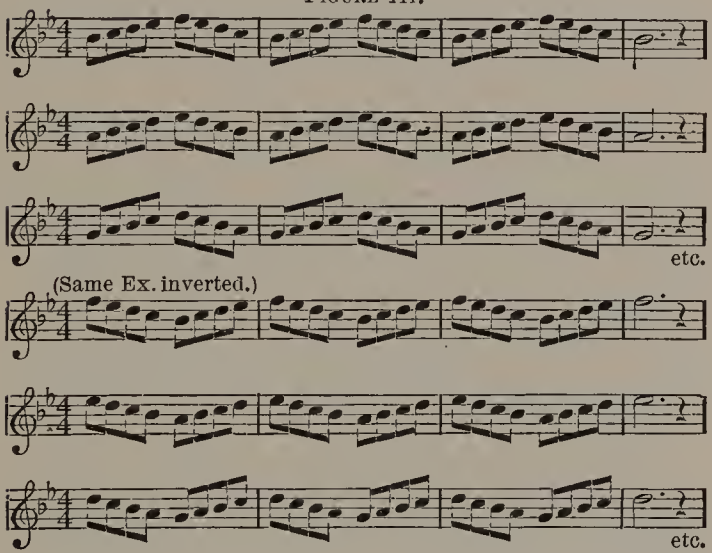
FIGURE II.



Another exercise figure is to use five ascending and descending tones.

In the illustration which follows, in the key of B flat, it is shown how the exercises may be sung, beginning upon the keynote, and keeping within the voice-compass.

FIGURE III.



These exercises are to be sung with vowel-sounds, softly, four measures with one breath, if possible, and in strict time.

Only so many of these tone-groups may be sung in any one scale, as lie within the extremes of pitch set for the grade, but if different scales

and upward and downward extensions of the same be used, then all possible combinations of tones in the major scale may be sung, that is, these exercise figures may upon a piano be repeated seven times in *any* key, in phrases of four measures each, both ascending and descending, but, owing to the limitations of the vocal compass, only a certain number of ascending or descending phrases can be *sung* in any one key.

While it is suggested that drill upon these musical figures or groups of tones may be given from scales, the teacher tracing out the tones with a pointer with a rhythmical movement, yet it is still better to practice these groups or some of them from memory, the teacher keeping time for and directing the class.

Pages of musical phrases adapted to vocal drill might be given, but to what end except to produce confusion. Our greatest singers use but few exercises to keep their voices in good condition, but they practice them very often.

NOTE.—The directions given are for rooms in which the teacher has only a pitch pipe or tuning-fork to get pitch from. If there is a piano the drill work for tone will be conducted a little differently.

The exercises suggested are intended for daily practice, and the fewer in number and simpler in form they are, the better will be the results in tone. This vocal drill which should precede or begin the daily music lesson must not be for over five minutes at most. Half of that time is enough, if it be spent in singing, and not frittered away in useless talk, and questions and answers. A practical application of the vocal drill is to be made to the note-singing from the book and chart, and to the school repertoire of songs.

The phrases voice-culture, voice-training, voice-development, etc., have been avoided in treating the subject of children's voices, because of possible misapprehension of their intended meaning. The terms are not, of course, inapplicable to children's voices, but they must convey quite a different significance than they do when applied to the adult voice. In each case, the end of voice-culture is the formation of correct vocal habits; but it would seem, that while it is possible to develop the adult voice very considerably in power, range and flexi-

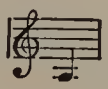
bility, we ought, in dealing with children's voices, to adopt those methods which will protect weak and growing organs. The aim is not more power, but beauty and purity rather. It should not be inferred that beauty of tone is not equally the aim in culture of the adult voice, but in that case it is consistent with development of strength and brilliancy of voice, while with young children it is not. If the tone is clear, beautiful, well poised, and under the singer's control, then the training is along safe lines. If the tone is bad, harsh, pinched or throaty, then the training is along unsafe lines. When the parts act harmoniously together, and there is a proper and normal adjustment of all the organs concerned in the production of tone, the result is good. Bad tone follows from the ill-adjustment of the parts concerned in voice production. It is the office of the teacher to correct this ill-adjustment and bring about a perfect, or nearly perfect functional action. The teacher must judge of the proper or improper action of the parts concerned in tone production by the sense of hearing. No accumulation of scientific knowledge can take the

place of a careful and alert critical faculty in training voice. Tone color must guide the school teacher in determining register as it does the professional voice trainer. But we can also call the mental perceptions of the child to our aid, and will find a more lively sense of discrimination in tone quality than the average adult shows. We can encourage the growth of high ideals of tone-beauty. We can cultivate nice discrimination. We can, in short, use music in our schools not to dull, but to quicken, the musical sensibilities of childhood.

CHAPTER IV.

COMPASS OF THE CHILD-VOICE.

THERE is the greatest diversity of opinion upon this subject among those who have any opinion at all. It might be supposed that, among the thousands of educators who are interested in school music and in the singing of children generally, many might be found who have given the subject careful attention, but such does not appear to be the case. If we consult the musical literature published for children, the prevalence of songs suited to the contralto voice is noticeable, indicating apparently that the compass of infant voices at least is about the same as that of the adult contralto. If there is any generally recognized theory upon the subject, it would seem to be this; but from a physiological standpoint the voices of children are totally unlike the woman contralto, and especially is this true of children of from six to eight years of age whose songs are usually written so low in range. An error, started any-

where or at any time, of theory or of practice, if it once become incorporated into the literature of a subject, is liable to be frequently copied, and enjoy a long and useless life. So with this treatment of the child-voice. The error is in supposing that it consists of a limited number of quite low tones. It has its origin in the sole use of the so-called chest-voice of the child, and when the evident strain under which a child of six or seven years labors to sing up is observed, the conclusion seems safe that they cannot sing high. While, on the other hand, they manage with apparent ease to sing down even as low as

This conception has in divers ways so imbedded itself into the musical literature for little children, that all efforts to uproot it have so far been apparently futile. There are, however, very many supervisors of school music, and the number is growing, who have recognized that this treatment of little children's voices is a vocal barbarity, and the device of

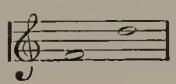
pitching songs higher than they are written to overcome the difficulty is more common than might be supposed. There can be no doubt that in a short time the practice of carrying the tones of little children three and four notes below the first line of the staff will not be tolerated.

The common, even universal, tendency of primary classes to drop in pitch when singing with the usual thick tone might show anyone that the voice was being used in an abnormal manner. Furthermore, the intonation of children of any age is something horrible when the thick voice is used. Even carefully-selected and trained boy choristers, if they use this voice, are frequently off the key even when supported by men's voices and the organ. So in addition to other reasons for using the thin register may be added this, that habits of faulty intonation are surely fostered by the use of the thick voice.

Picture to yourself the short, thin, weak vocal bands of a child of six or seven years attached to cartilaginous walls so devoid of rigidity that in that dreaded disease of childhood—croup—

they often collapse. That is not an instrument for the production of tones in the contralto compass. No wonder the pitch is wavering. If infant classes are to sing with the usual tones, the common advice to make the singing-exercise short is extremely judicious. It would be better to omit it.

The intimation that the last word can now be said on this subject is not for a moment intended, but experience has given some tolerably safe hints in reference to the compass of the child-voice in the thin register at the ages mentioned, and it is advised never to carry the compass lower than E first line, nor higher than F fifth line of the staff, and the upper extreme must be sung sparingly. The easiest tones lie from



The injunction to sing very softly need hardly be repeated.

Passing now to children who range in age from nine to eleven years, who are found in the fourth and fifth years of school-life, it may be observed that there is quite a marked increase in

the evenness and firmness of their tones. It is quite possible, especially at the age of about eleven years, to extent the compass to G above the staff and to D or C below; but if it does no harm, it serves no particular good end either, and unless care is taken, the children will push the highest tones. All of the necessary music drill can be kept within the suggested range, and it is just as well to keep on the safe side. Then again, the extremes in age between children of the same class grow farther apart as we ascend in grade, and the compass must be kept within the vocal powers of the youngest, and, from a voice-standpoint, weakest pupils. Protect the voice, and nature will attend to its development.

From the time children pass the age of twelve years on to the period of puberty, the child-voice is at its best, and if the use of the thin register has been faithfully adhered to in the lower grades, the singing-tone will now be both pure and brilliant. It will be found not at all difficult to carry the same voice as low or lower than middle C without any perceptible change in tone-quality, and G above the staff will be sung with

absolute ease. How much higher, if any, the compass may be carried is open to discussion. It is not at all necessary in school music to go any higher, for, even where it is deemed best to raise the pitch of the song or exercise to avoid too low tones, the pitch of the highest note will seldom be above G—space above.

Still, it is the practice of choirmasters to carry the tone of soprano boys much higher in vowel-practice, as high even as

and although that is a pretty altitudinous pitch, there are very few choir-boys who, when taught to breathe properly, etc., will not take it occasionally with perfect ease. The head-register, even in woman's voice, is capable of great expansion, if good habits of tone-production are followed. But again it is well to be on the safe side; and choir-boys, who are selected because they have good vocal organs, and who are drilled far more than school children, are hardly a criterion to go by.

It must not be forgotten that the thin voice

can be pushed and forced. Good judgment must be exercised in controlling the power of voice, or children will strain the vocal mechanism in trying to outsing each other on *high* tones. The question, How high may boys or girls sing who have passed twelve years of age and whose voices show no signs of break, is not so very important after all, for if they have been well trained in soft tone, no danger of vocal strain need be feared even if an occasional high A or B flat is struck.

The reason for the ease with which children sing the high head-tones is found in the structure of the vocal bands. They are *thin*. Consequently, there is, compared to the entire substance of the vocal bands, a larger portion proportionately set in vibration than for the production of the head-tone in woman's voice. And when the child-voice is so used that no strain of the laryngeal structure is occasioned, that is, when the vocal ligaments are exercised in a normal manner, it cannot but happen that the muscles controlling the vocal bands will increase in strength, and that the bands them

selves, composed as they are of numberless elastic fibres, will improve in general tone and elasticity.

The suggestions made in regard to the compass of voice are, be it said, simply suggestions based on experimental teaching and are such as it is believed may be followed with safety in school singing. If they do not square with the music of books and charts, why, as before said, it is a very simple matter to give a higher key for any exercise, than the one in which it is written. A supervisor, by marking the exercises in the desk copy, can ensure the use of the key he desires. If it is objected that the tones then sung will not represent the real pitch of the written notes, why that is at once admitted. What then? The idea of teaching absolute pitch is a chimera. Pianos are not alike in pitch, neither are tuning-forks. Classes will often for one cause or another end a half tone or a tone lower than they began even if the pitch as written is given. It may not be desirable to sing in one key music that is read in another, but it certainly is less objectionable in every way

than is an unsafe use of the voice. The correct use of the voice must transcend all considerations in vocal music, and no sort of practice which misuses the vocal organs can be excused for a moment.

CHAPTER V.

POSITION, BREATHING, ATTACK, TONE FORMATION.

ONE way to secure good position is to require the pupils to stand. Unless the singing-period directly follows a recess, or the drill in physical exercises, the pupils will welcome the opportunity. As soon as standing becomes irksome resume the seats. No further direction in regard to sitting position is necessary than that the body should be held not stiffly, but easily erect and self-supporting, resting neither upon the back of chair nor upon the desk in front. A doubled-up, cramped position is, of course, all wrong, and may be avoided if the pupils are permitted to alternate between sitting and standing positions; but, if required to sit as suggested for too long a time, the rule will soon "be honored more in the breach than in the observance." This brings us to the consideration of

Breathing,

for the latter in its relations to vocalization de-

pends much upon position. The breath is the motive power of the voice in speech or song, and the fundamental importance of managing it aright has been understood by every teacher of voice since the time of Porpora.

How for singing purposes breath shall be taken, how exhaled, how managed in short, is not yet entirely settled and presumably never will be, for people are not born wise, and some never acquire wisdom, of whom a few teach music. Browne and Behnke, in "Voice, Song, and Speech," p. 138–142, describe the process of breathing as follows:

"There are three ways of carrying on the process of respiration, namely, midriff breathing, rib-breathing, and collar-bone breathing. These three ways are not wholly independent of one another. They overlap or partly extend into one another. Nevertheless, they are sufficiently distinct and it is a general and convenient practice to give to each a separate name, according to the means by which it is chiefly called into existence. The combined forms of midriff and of rib-breathing constitute the right way, and

collar-bone breathing is totally wrong and vicious, and should not in a state of health be made under any circumstances. When enlarging our chests by the descent of the midriff, we inflate our lungs where they are largest and where consequently we can get the largest amount of air into them. When expanding our chests by raising the shoulders and collar-bones, we inflate the lungs where they are smallest and where, consequently, we get the smallest amount of air into them. *The criterion of correct inspiration is an increase of size of the abdomen and the lower part of the chest. Whoever draws in the abdomen and raises the upper part of the chest breathes wrongly.*"

In normal breathing the body at inspiration increases in girth at the waist, and the abdomen moves slightly outward as the viscera are forced downward by the descent of the diaphragm. The diaphragm is a large muscle which serves as a partition between the thorax or chest-cavity and the abdomen. When relaxed its middle portion is extended upward into the chest-cavity, presenting a concave surface to the ab-

domen. At inspiration it contracts, descending so as to assume very nearly a plane figure. At expiration the process is reversed, the diaphragm relaxes and the abdominal viscera, released from its pressure and forced by the abdominal muscles which contract as the diaphragm relaxes, moves upward and inward.

This kind of breathing in which the muscular contraction of the diaphragm calls in operation atmospheric pressure, supplies the body, when tranquil, with nearly or quite enough air. When for any reason a larger quantity of air is demanded, it may be secured by raising the ribs, thereby increasing the chest-cavity.

In singing, the breath must be managed so that the air passing through the larynx at expiration shall be set into vibration at the vocal bands. Expiration, then, which ordinarily occurs very quickly must be retarded by slowly relaxing the muscles which contract at inspiration. At the same time the throat must be open, and the muscles surrounding the resonance cavities relaxed to allow free movement of the sound-waves set up at the vocal bands. Any

upward movement of the shoulders and chest at inspiration involving the contraction of many powerful muscles of back and neck will occasion a stiffening of the throat, which prevents free vibration of the vocal bands and seriously interferes with the resonance of tone.

The conclusion of the whole matter is, that in singing we should take breath exactly as in the ordinary quiet respiration, and avoid any lifting of the shoulders. This is at least enough to say to a class of children upon the subject.

The means adopted in education should be as simple and direct as possible. It will be found unnecessary to say very much about breathing in dealing with classes of children. In the first place, the moment the subject is broached and the direction "take a good breath" or a similar one given, each child will draw up the chest and shoulders prepared for a mighty effort; while, if nothing is said about it, position alone being attended to, the breathing will be all right. And again, while adult singers for various reasons, one of which may be the supposition that the more energy

put forth the better the tone, often present themselves to the voice-teacher with a fine assortment of bad breathing-habits, children, on the contrary, are sent to school at so young an age that a little watchfulness on the part of the teacher only is necessary to avoid improper ways of taking breath and establish good habits. If young children, then, are not permitted to raise the shoulders, they will perforce breathe properly.

It seems inadvisable also to give any instruction regarding the emission of air from the lungs in singing. None but cultivated singers, after long practice and through a complete command of the muscles concerned, can vocalize *all* the air at the vocal bands. The absolute purity of tone which is thus secured is a result that may or may not be reached in any particular case. It depends upon the mental and physical organization of the pupil as well as upon the method of the teacher.

Exercises which are adapted to the formation of good breathing-habits are much more to the point in practical teaching than efforts at expla

nation. Therefore, a few hints are given, which, it is hoped, may be of practical value, for it is very important that good breathing-habits be formed in school singing.

The change in structure which the larynx undergoes at puberty, demolishing as it does the boy-voice, and rendering of no avail the training of childhood in so far as it affects the larynx, does not extend in its effects to the breathing-apparatus. So, a habit of breath-management, good or bad, formed in school may continue through adult life. Special breathing-exercises are sometimes recommended, but their efficacy may be doubted, even if the length of time devoted to the music lesson permits them. The inclination of pupils in such exercises is to raise the chest and fill the lungs too full of air. The result is too much air pressure at the vocal bands, and a stiffening of throat and jaw muscles. The tone then will be loud; in fact, strong pressure of air at the vocal bands is almost sure to force them into the fullest vibration; that is, into the thick register, and, as a result of contracted throat, the tone will be pinched, or throaty. It

is recognized, however, that it is just as easy to teach good habits of breathing as bad.

This exercise may occasionally be given: The pupils first standing, shoulders well set, but with no pushing out of chest, place hands at the waist so that the movements of normal breathing may be felt. Now let the pupils take a little breath *quickly*. The movement at the waist must be outward and downward, never inward, at inspiration. The breath may be held a few seconds by keeping the waist expanded—keeping an imaginary belt filled, for instance—and then let go by relaxing at the waist. If, however, there is any stiffening of the throat, as if it were thought to cork up the air in the lungs, the object of the exercise, in so far as it relates to the formation of good breathing-habits suitable for easy vocalization, is defeated. Every teacher must use his judgment in this matter of breath-management in singing. If pupils are, unguided, using correct, easy methods, there is then no need to interfere. If some are inclined to take too much breath and lift the shoulders, a few hints may put them on the right track.

Loud singing and bad breathing-habits go together. If the first is desired, the lungs must work at full capacity, and hard blowing from the lungs forces the voice. On the contrary, soft singing promotes quiet habits of breathing; and, if the pressure of air at the larynx is moderate, soft tone is possible. If thin, soft singing alone be allowed, quiet deep breathing will be practiced instinctively.

The easy control of the muscles whose relaxation permits the exhalation of air from the lungs is, as already said, gained by their proper exercise in speaking and singing, for the same mechanism is called into operation in speech as in song. In childhood the lungs can neither hold as much, nor retain it so long and easily as in adult life.

There is no better way, perhaps, to acquire the ability to regulate the air-pressure at the vocal bands than by soft, sustained singing. The "continuous tone" described in a preceding chapter, secured in scale drill by letting each child breathe at will, is an excellent exercise for developing good breathing-habits. As there is

no nervous tension whatever, each pupil will naturally sustain tone until the need of another breath is felt, when it will be taken quickly and the tone at once resumed.

To sum up: Sit or stand in good position, the chest neither pushed out nor in a state of collapse. Avoid any, even the slightest, upward movement of the shoulders. Point out the movements at waist occurring at inspiration and at expiration if necessary, not otherwise. Let the breath be taken quickly, not too much at a time, and as often as need be, and sing softly.

Attack.

The beginning of each tone is called attack. The common faults of attack in class-singing are sliding to the pitch instead of striking it accurately, and beginning to sing with the mouth still closed, or only partly open. When the attack presents the combined effects of these two common habits, a quite realistic caterwaul is the result.

Both faults may be generally overcome or prevented by calling attention to them. Good

mental attention is the most infallible cure for slovenly habits of attack. It may be that there are in all schools a certain proportion of the pupils who have very weak and imperfect vocal organs; in their cases, even good attention cannot overcome physical inability.

In repose the vocal bands are separated to allow the free passage of air to and from the lungs. At phonation the bands are drawn toward each other, meeting just as it commences. There need be no preliminary escape of air. Also the resonance cavities above should be open, that the vibrations generated at the vocal bands may find expansion and resonance. The mouth and throat should then be opened a moment before tone is attacked, when, if the pitch to be sung is clearly pictured in the mind, both the "slide" and "hum" will be avoided.

Tone-Formation.

Beauty of tone implies absence of disagreeable qualities, and freedom from unpleasant sounds. Faulty tones are called nasal, guttural, palatal, throaty, muffled, and so on, the peculiar timbre

of each suggesting the name. If the throat is relaxed, and if the soft parts of the vocal tube lying between the larynx and the teeth are kept out of the way, most of the disagreeable qualities of voice enumerated disappear. Certain requisites are necessary to good tone-formation.

First, a movable lower jaw.

It is astonishing that so many of young and old will, when they wish to open the mouth for song, try to keep it closed. Paradoxical as the statement is, it nevertheless describes a very common phenomenon—the "fixed jaw," it may be called. As soon as the teeth are parted slightly, the muscles of the face and neck which control the movement of the lower jaw contract, holding it in a fixed position, and incidentally tightening the muscles of the throat until the larynx is in a grip as of rubber bands. The mouth must not be held open as if the jaws were pried apart. It is opened by the relaxation of the closing muscles and should hang by its own weight, as it were. If then the lower jaw drops easily, and with no accompanying muscular contraction of face or throat, the tone

may be formed or shaped well forward in the mouth, unless the soft parts referred to obstruct it.

These soft parts are the tongue and the soft-palate. The soft-palate is a structure which hangs from the posterior edge of the hard-palate. The uvula, the pillars of the palate, and the tonsils are parts of the structure.

The tongue which, when the mouth is closed, nearly fills it, should in vocalization lie as much out of the way as is possible. If the tip be pressed against the lower teeth and its sides upon the molars, it forms a floor to the cavity of the mouth. If the tip turns toward the roof of the mouth, or if it is drawn back and under, so as to arch the tongue, tone is seriously interfered with, while if the root of the tongue is drawn backward, the tone is shut in.

If the soft-palate is not raised in singing, the tone is diverted into the cavities of the nose, and that color given to the tone called nasal. If the lower jaw is held too high, the tone is again forced through the nose. A nasal quality can be modified by opening the mouth. The

muffled voice is sometimes the result of the tongue's unruly behavior. The throaty, pinched voice, due to a stiff and pinched throat, will hardly appear if good conditions as regards position, breathing, soft tone, open mouth, etc., are maintained. The tone should not be swallowed nor, on the other hand, blown out of the mouth. It should be formed in the mouth and kept vibrating within it. When the right conditions are hit upon, the tone seems to sing itself. Whether soft or loud, the tone should fill the mouth, so to speak.

It must now be remembered that beauty of tone improves along with growth of thought and feeling. Encourage discrimination in tone-quality and help in any way advisable the growth of good ideals, and verily shalt thou be rewarded.

CHAPTER VI.

VOWELS, CONSONANTS, ARTICULATION.

SOUND-VIBRATIONS generated at the larynx are modified as to their form, by the size and shape of the resonating cavities of the mouth and pharynx. Through the movements of the soft-palate, tongue, lower jaw and lips, the shape and size of the mouth can, within certain limits, be changed at will. As every vowel-sound requires a peculiar form of the resonating cavity for its production, it will be easily understood that each vowel-sound of which the human voice is capable can be made by a proper adjustment of the movable parts of the vocal organs. As all singing-tone is vocal or vowel in its character, the production of the various vowel-sounds takes precedence in the study of vocal music. Just how much of this study can be carried on in school music will depend upon circumstances, the chief of which is the time assigned for music. It is very easy to suggest that if the time given is not enough, that

longer lesson periods be demanded; but it is quite probable that, owing to the pressure of elaborate courses of study, the request would be seldom granted. It remains, then, for those in charge of school music to expedite their work by means of simple and direct methods.

Each division of the music work must be carried so as to secure unity of result. The vocal drill, oral or written, will train the eye and ear for sight-singing, and the sight-singing be a practical application of correct vocal drill.

The study and practice of the different vowel-sounds must then *fit in* with the scheme of study. The practice of singing the vowels by name as, *a*, *e*, *i*, *o*, *u*, is not to be recommended, as only one, namely *e*, stands for a single sound-element; nor is it probable that the results will justify extensive drill upon the more obscure vowel-elements, if the term may be applied to those sounds which are differentiated only slightly from the more pronounced vowel-sounds.

There are some twenty vowel-sounds that are used in English speech, but for various reasons

a less number are employed in song. For, while it is desirable to give to each word and syllable its correct vowel-sound in singing, those which are unfavorable to good tone are usually approximated to the sound of those more favorable to good tone.

If too marked distinctions in the vowel-sounds are made by the singer, the result is disagreeable; while if the voice preserves a similar hue or tone-color throughout, the effect is pleasing.

The listener is unaware of the slight deviations from the spoken vowel-sound which the singer makes, that the requirements of tonal beauty may be met.

It is advisable in vowel-practice to avoid letters or symbols which represent two sounds. an initial and a vanish; and to use simple vowel elements instead. The combinations of different elements represented by certain letters and diphthongs may easily be explained when they appear in the words of a song, if, indeed, the study of phonics has not already cleared away all difficulties.

In singing, however, it is necessary to under-

stand which of the two sounds, the initial or the vanish, is to be sustained. In *ā*, for instance, which is *eh+e*, if the vanish *e* is sustained in a word like *day* the effect is *deh-ee*. The first sound should be sustained, and the vanish *e* be heard only slightly as the mouth partly closes at the end of the tone. *Ī*, again, which is equivalent to *ah+e*, is often sung by prolonging the *e* instead of the initial *ah*, as *light—li-eet*. *Ō* is a compound sound *ō+o͞o*, but the tendency to sing the first sound short and prolong the second is very slight usually. *O*, then, can be used to represent a simple element. *Ū*, which equals *e+oo*, is best sung by making the initial sound short and the vanish the longer tone.

It will thus be seen that of the five vowel names, *a*, *e*, *i*, *o*, *u*, *e* only stands for one sound, though the two sounds of *o* are so closely allied that the vanish is often imperceptible The sound of *ā* in *ăt* is the most unfavorable sound for song in the language, and those extremely consistent singers who wish to use it can do so.

The nasal twang of Yankeedom is a plant that

needs no nourishing. Its roots are grown wide and deep; so much so, that those who love it need not fear that it will pine away and die, if it bears no fruit of song, but only that of speech.

The sound of *ă* will survive even if it is unused in song. It should in singing be broadened nearly to the sound of *ah*.

A number of simple elements are suggested which may be used in various ways in vocal drill. They are *ē*, *ĭ*, *ĕ*, *ä*, *a*, *ō*, *o͝o*. Or *ē* (as in *be*), *ĭ* (as in *it*), *eh*, *ah*, *aw*, *ō* (as in *go*), *o͝o*. The vowel-elements remaining are each so closely allied to some of those indicated that the attempt to differentiate them from the above in vowel-drill is hardly worth while. In fact, the use of *ĭ*—*i* as in *it*—may be omitted if pupils have learned to sing *ē* with fair breadth of sound, and *oo* may be dropped in grades above the primary. It is the final sound of *ō*, as before said. This leaves five vowel-elements.

E.

This vowel is often badly sung, and its form is none too favorable to good tone even when made as large as distinctness will allow. The

lips must be drawn a little away from the teeth as in a smile, *but don't overdo it*, and the teeth slightly parted. The lips should not be drawn back, exposing the teeth and gums, nor should they be contracted and pressed against the teeth. In *e* and in all vowel singing the lips should be relaxed, not contracted, and kept about as far from the teeth as they are in repose. If the opening of the mouth, that is, if the cavity back of the teeth is kept too small and narrow, the tone will be nasal and twangy. The mouth must be opened enough to permit purity of tone and free emission. The sound should verge toward *i* in *it*.

I.

This sound is *ē* broadened. The teeth may be a little farther apart than when *ē* is sung.

Ĕ or EH.

This is the sound of *e* in the word *get*. It is also the initial sound of the vowel *ā* or long *a*. It is true that this sound is not usually so given, but if *ā* is sung with this sound as its initial sound, and the one to be prolonged, the very best vocal results can be obtained The vowel

ā is more often poorly sung than otherwise. This is, perhaps, for the reason that comparatively few singers recognize that long *a* stands for two sounds, and that the first, which may be spelled *eh*, can be sung with large form and placed well forward in the mouth, while the second sound *ē* is small in form, and not adapted to the finest tone-effects. In singing this element, the jaw should drop much lower than for *ĭ* and nearly as low as for *ah*.

Ä or AH.

This is the tone universally accepted as the best for voice-development; but in school-singing it is not permissible to use the voice except in the lightest manner, therefore purity of tone must content our ambitions; power can come later in life. The mouth opens widely for this tone and the whole throat is expanded.

A or A W.

This element is formed very much like *ah*. It is *ah* broadened a little. The jaw drops to a lower point and the mouth-cavity deepens, while at the same time the extension from side to side narrows a little.

ō and OO.

These sounds are better adapted to securing the use of the thin voice, where pupils have been accustomed to the use of the thick voice, than any other vowel-element. The mouth is well opened back of the lips, which should not be puckered as if to whistle, but relaxed instead.

In actual practice there may be observed a tendency, more or less marked, but pretty sure to manifest itself if practice on one sound is continued too long at a time, to deviate from any one toward some other vowel-element, as *ĭ* to *ē*, *eh* to *ĭ*, *ah* to *er* or *er* or *uh*, *aw* to *uh*, *ō* to *oo*.

If this tendency to deviate from the right tone be permitted, the most slovenly habits will be formed, and all distinctions in vowel-sound disappear. Vowel-practice had better be omitted from class-work unless carefully and conscientiously taught.

If the course of music embraces drill upon scales, vowel-practice may be incorporated into the course easily. For instance, the drill outlined upon p 70 may one day be given with *e* for a few moments, then with *a*. On another

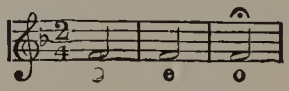
day the drill may be upon *ah*, followed by *eh*, and so on. It is unnecessary to particularize. Every teacher will at once see how to apply practically vowel-singing to his music course. The exercises and songs may be sung with vowel-sounds. Nearly all books advise the use of *la*, *lo*, etc., in vocal exercises; but while that method of singing is unobjectionable, the vocalization of solfeggii, it may be observed, is established by the sanction of time and the experience of thousands of voice-trainers the world over.

The advantages which flow from vocalizing exercises and songs on a single vowel-sound are too many to be described in a word. No supervisor or teacher of music can afford to use *do*, *re*, *mi*, exclusively.

Another class of exercises is now suggested which may be sung upon one breath. They will be found especially adapted to develop flexibility and a ready adjustment of the movable parts of the vocal tube to the positions suited to the formation of the different vowel-sounds. If three sounds are used as here given, they must be sung quite slowly, the change from one sound

to the next being made by a quick, easy change of position of the jaw, tongue, etc., but without interrupting the continuity of the tone.

Sufficient pause to obtain a new breath must be made at the end of each group, and the mouth opened properly for the production of the first sound of the next group before it is at tacked. The time should be



quite slow and as in illustration, or the breath will not be used, and at each succeeding group of tones the lungs will become too full of air. The attack will then be explosive, and the tone too loud, if, indeed, the effort to control the breath does not contract and pinch the throat.

Eight groups are given for ascending a scale and eight for descending:

ō	ē	ō	ō	ē	ĭ
ō	ĭ	ō	ō	ē	oo
ō	ah	ō	o	ah	e
ō	eh	ō	ō	ah	eh
ō	aw	ō	ō	ah	aw
ō	ē	eh	ō	ah	ĭ
ō	ē	ah	ō	ah	oo
ō	ē	aw	ō	eh	e

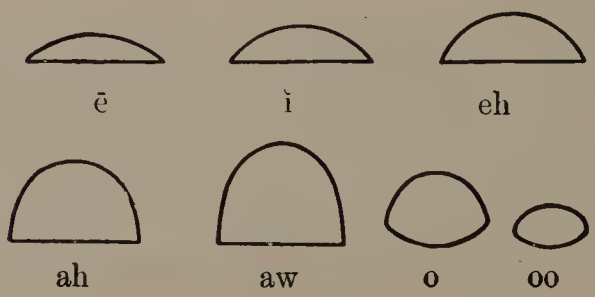
It will be observed that a certain system of arrangement of the vowel-elements is followed. First, there are five groups, of which *o* is the first and last sound, the others being placed between. Then *o* is the first tone with *e* as the second, the other sounds in turn ending the group. Next *ah* is the second sound, then *eh*, *i*, *oo* and *ah* might be used as the second vowel-element, making thirty-five combinations with *o* as the initial sound of each group. The same number of combinations can be made with *ah* as the first tone, and so on with each of the seven vowel-elements.

Sixteen of these groups, changed from time to time as may be desired, can be written upon the blackboard and sung by the class in the way set forth, the teacher meanwhile keeping time for and directing the class.

It may be observed in this connection, that, as the voice ascends in pitch, there is a tendency to blend the various vowel-sounds into one sound. As the tones grow higher the sound-waves are focused at higher points upon the hard-palate, the sounding-board of the resonance

cavities, and more difficulty is experienced in moulding these sound-waves into the forms characteristic of the different vowel-elements. As the parts concerned in tone-formation gain in flexibility, the result appears in the ease with which the alterations in shape of the resonance tube are made at higher pitches.

Fads and devices which divert attention from the subject and retard rather than accelerate the progress of pupils are common enough in schools, but the following simple illustrations of different vowel-forms may be found useful:



The base line represents the floor or base of the mouth-cavity, and the arch, the height and width of the mouth for each sound; the depth is not indicated. The width of the mouth from

side to side is represented as greatest in *ē*, *ĭ* and *eh*, while the height is greater in *ah* and *aw*, *o* is pictured as nearly round, and *oo* the same, only small.

It is not contended that these diagrams picture the actual form assumed by the resonance cavities very accurately. The various positions which the tongue and the soft-palate assume are not shown at all, nor, perhaps, is it necessary; for if the pupil is taught to drop the lower jaw to the right position for each sound, and to keep the tongue prone in the mouth, a mental picture of each tone will be formed, and the thought will regulate the action. When the pupil can think the sound desired, the conditions for its formation will be met by the vocal organs. The usefulness of diagrams will then cease.

Consonants and Articulation.

"Consonants are the bones of speech. By means of consonants we articulate our words; that is, we give them joints. We utter vowels, we articulate consonants. If we utter a single vowel-sound and interrupt it by a consonant, we

get an articulation. Consonants, then, not only give speech its articulation or joints, but they help words to stand and have form, just as a skeleton keeps the animal from falling into a shapeless mass of flesh; therefore, consonants are the bones of speech. The consonant is the distinguishing element of human speech. Man has been defined in various ways according to various attributes, functions and habits. He might well be called the consonant-using animal. He alone of all animals uses consonants. It is the consonant which makes the chief difference between the cries of beasts and the speech of man."—*Richard Grant White.*

Consonants are not to be sung. The effort so common among singers to pronounce, by sustaining consonant sounds, is entirely misdirected. *M*, *n* and *ng*, which are made by shutting off the escape of the air-current at either the lips or the hard-palate, and so forcing it through the nose, are often sustained to the detriment of beauty of tone and clear pronunciation as well.

Articulation, which is the pronunciation of a consonantal sound, is accomplished by interrupt-

ing the air-current, whether vibratory or not, at certain points. The interruptions are made by the meeting of the lips with each other or with the teeth, by the tongue with the teeth or hard-palate, and the root of the tongue with the soft-palate. The interruption may be complete, as in *p* or *t*, or only partial, as in *th*. The sound of the consonant results from the slight explosion or puff which follows the recoil of the movable parts from the point of contact.

All consonants may for singing purposes be considered as preceding or following some vowel-sound. If preceding, then after the sound is made the vocal organs must be adjusted at once for the proper formation of the succeeding vowel. If the consonant sound follows a vowel-tone, the movement of the vocal organs to the interrupting point must be quick and vocalization at once cease; for if the vowel-sound is prolonged after the production of the consonant, the effect will be an added syllable to the word as *at-at-er*, *up-up-pah*, etc. The movements of the organs of speech for both contact and recoil must be

more rapid in singing to produce distinct articulation than in spoken language.

Slovenly habits of articulation in speech will reappear in song, and the converse is also true. The study and practice of phonics, which is now general in schools, is of the highest practical importance in singing, as well as in reading or speaking. As consonant sounds cannot be sung, they are best taught in spoken language. The application of the knowledge and skill thus gained is readily applied to the pronunciation of words in singing. If the vowel-elements have been carefully practiced in vocalizes, there will be little effort required to secure the correct formation of all the vowel-sounds of words.

The nasal twang must, however, be ruthlessly suppressed. As before suggested, this will frequently appear in words containing the sound of *a* as in *at*, *past*, *fast*, etc. It is recommended that such words be sung with *a* as in *father*, or if not quite as broadly, at least approaching the sound of *ah*.

If the movements of the vocal organs are quick, flexible and without muscular tension or stiff-

ness, and if the mouth opens neither too much nor too little for each vowel-sound, words may be sung and understood while beauty of tone is not sacrificed.

CHAPTER VII.

MUTATION OF THE VOICE.

THE anatomical and physiological changes which occur in the larynx at puberty have been described in the chapter on "Physiology of the Voice." It may be added that at this period the resonance cavities also undergo considerable alteration in size and form.

As childhood is left behind the individual emerges. Divergences in face, in form and in mental characteristics become emphasized. The traits of race and family are manifested and self-consciousness becomes more acute. This period of development, bringing as it does so much disturbance to the vocal organs, is particularly inimical to singing; and yet public school music is expected to produce its most elaborate results in those grades where the pupils are just about to enter, or are passing through this period of rapid growth and change. The singing in such grades may be discussed with reference first to the singing of girls and then to that of boys.

The vocal organs of girls often develop so gradually in size, and with so little congestion of the laryngeal substance, that no aversion is manifested to singing. In other cases the inflamed condition of the vocal organs is shown by the hoarseness which follows their use, and the huskiness of the singing-tone. The voices of nearly all during the mutation period show more volume of tone on the lower tones and evidences of strain at the higher tones.

It is a good plan to put girls who show throat-weakness, characteristic of their age, upon that part which requires only a medium range of tones, and to repress all inclination to force and push the voice. The desire which girls often express to sing the upper soprano need not affect the teacher to any great extent. A multitude of strong and constantly-shifting ambitions are thronging through their minds. Some wish to sing the highest part because it seems to them to be the most prominent part; some wish to sing it because they can do so with the least mental effort, and so on. These whims and wishes must be treated tactfully, but if the teacher

is sure that a certain course is right, there is no alternative but to carry it out, with as little friction as may be. Large voices, that is, voices that proceed from large resonance cavities, are often badly strained at this period of life by too loud and too high singing. It must not for a moment be forgotten that the age is a critical one for vocal effort, and a strain that the adult woman's voice will endure with apparent impunity may produce lasting evil effects on the voice of a girl of from fourteen to sixteen years of age.

If the requirements of the music are such that pitches above F, the fifth line G clef, must be occasionally sung, let the voices upon the part sing lightly. If some of the girls are put upon the lower of three parts, do not let them use the chest-voice, which is just beginning to develop, otherwise than lightly also.

The boy's voice may change from the soprano to a light bass of eight or twelve tones in compass in a few months, or the change may extend over two or three years; that is, two or three years may elapse after the first distinct break be-

fore there is any certainty of vocal action in the newly-acquired compass. When the voice changes rapidly, all singing should be stopped. Really, in such cases, boys cannot sing even if they attempt to do so.

They are so hoarse, and the pitch alternates so unexpectedly between an "unearthly treble and a preternatural bass" that a boy can usually sing only in monotone, if, with courage proof against the ridicule occasioned by his uncontrollable vocal antics, he trys to join in. In those cases, where the larynx undergoes a slow change in growth, it is often possible for the boy to sing all through the period of change. The upper tones may be lost, while there is a corresponding gain of lower tones. This process, in many cases, goes on slowly and with so little active congestion of the larynx that the voice changes from soprano to alto, and thence to tenor almost imperceptibly. Voices which change in this way often become tenor, but not invariably.

The question now arises, Should those boys who can sing while the voice is breaking be required to take part in school singing exercises ?

In Browne and Behnke's work, "The Child Voice," to which allusion has been made, there is given a resumé of 152 replies to the question: Have you ever known of boys being made to sing through the period of puberty, and, if so, with what result?

The answers were:

Forty correspondents have no knowledge.

Five think the voice is improved by the experiment.

Ten quote *solitary instances* where no harm has arisen.

Ten know of the experiment having been made, and consider it has caused no harm to the voice.

Eight mention results so variable as to admit of no conclusion.

Seventy-nine say the experiment causes *certain injury*, deterioration or ruin to the after voice, and of this number ten observe that they have suffered disastrous effects *in their own person.*

These answers were from English choirmasters, organists, music teachers, singers, etc.

It will be noticed that only fifteen of those who give a positive opinion upon the subject think that boys can sing through the period of break safely; while seventy-nine are positive that the result is unsafe. The other replies are vague.

It must be remembered that many of the opinions are those of instructors in cathedral schools, where one or two rehearsals and a daily church service means a great deal of singing; while other answers come from choirmasters who require of their boys equally hard work, though less in quantity.

Every individual voice must be judged by itself, if such demands as choir-singing are made upon it; and, while there are some cases, as every choirmaster will probably agree, where no perceptible injury results from singing during the change, the rule is that even when possible, it is very unsafe.

But the daily time given to singing in schools is very short; the work bears no comparison with choir-singing. It might almost be thought as necessary to forbid reading and talking during

the break of voice as to forbid its use in a daily drill of fifteen or twenty minutes in singing.

Certainly it is absurd to advocate entire non-use of the voice at this period in either speech or song. It is rather correct to guard against its misuse. If boys have up to this time used only the thick register, they will in singing through the break intensify their bad habits; throatiness, harshness, nasality will become chronic. This would be bad enough, but each bad vocal habit results from the abnormal use of the vocal organs, and occasions hoarseness, chronic sore throat, catarrh, etc.

It is quite customary in school music to assign the boys to the lower part, in part music. This practice continued from the time part-singing begins in the music course, compels the boys to use the thick register. As the larynx gains in firmness from year to year, they experience more and more difficulty with their upper tones—those lying from F to C. Having used only the thick voice in all their school singing, they know of no other, and very likely consider the thin voice which they are now obliged to use in sing-

ing the higher tones as altogether too girlish for the prospective heirs of manly bass tones.

The reluctance of boys to sing the soprano would be amusing were it not, in the light of utterly false training, so pitiful.

School music is educational; its scope is controlled by those in charge. The public expects good educational, rather than show work, and employs those to supervise and teach who are supposed to know what good educational work is in vocal music.

The supposition that children's voices can, owing to individual differences analogous to those existing among adults, be divided into alto and soprano voices, is erroneous; children can most assuredly sing in parts, but the quality of tone which in the woman's voice is called alto or contralto cannot be secured for certain physical reasons previously explained; and the use of the chest-tone, which resembles the adult woman's chest-voice as a clarinet resembles a viola, is wholly objectionable.

If, however, the voices have been trained in the use of the thin register only, the manage-

ment of the boy's voice during the change is simplified; the influence of good vocal habits will be felt; the vocal bands which have never been strained will respond when their condition admits of tone-production. The boy who has been accustomed to sing with an easy action of the vocal ligaments and with open throat will at once become conscious of any unusual strain or wrong adjustment in the vocal organs. If he has learned to sing well, he has also learned not to sing badly.

The test to apply to the subject of boys' singing in school during the break may be: Can they sing without strain or push? Can they sing easily, or does it hurt? There is a certain amount of humbug in boys that must be allowed for, but it does not affect calculations as to their singing-powers more than upon their other abilities, if singing is well taught.

The speaking-voice also indicates the state of the vocal organs, and shows the effect of the break sooner than does the singing-voice. If the tones in speech are steady in pitch, singing is possible in all probability. If, on the contrary,

the speaking-voice is croaky and wavering, singing is difficult, if not impossible. As the object of the study of vocal music in the public schools, in so far as it relates to the treatment of the voice, is to develop good vocal habits, not bad ones, it follows that if boys sing during the break it must be only upon those tones which lie within their compass at any time, and that the vocal organs must be used lightly, and without strain.

In nearly every upper grade room there will be a percentage of boys whose voices are in a transition stage, some of whom can sing and others of whom cannot. It requires judgment and tact to handle these voices, but if boys have sung as they should up to this period, and have taken pleasure in it, the mutual good understanding between them and their teacher need not be disturbed. They are likely to do their best.

In this connection it should be said, that really it may be doubted if the common practice of assigning all boys, whose voices show signs of breaking, to the bass part, is right.

If boys have been kept upon the lower part, in

all part singing and have never used other than the thick chest voice, then, when the voice begins to break up, it may be that they must sing bass or not sing at all. Boys trained in this way have never used the soprano head register and so if they sing alto, it will be with the thick chest voice of boyhood, which will now be the upper tones of the developing man's voice.

Singing alto at the mutation period in *this* manner, strains the vocal bands beyond reason, and should not under any circumstances be allowed. It must be understood then in what follows, that singing alto in this, the chest voice, either before or during the break, is unqualifiedly condemned.

But we will suppose now that boys have been permitted to sing only in the head register, that they have been assigned to the upper part in part singing, for notwithstanding that usage is to the contrary, this is what should be done. As has already been suggested the voices of girls change less, and at a younger age than do boys, and they begin to show weight of tone and increased volume, at an age when boys are at their best as

sopranos. Girls at this period should sing the middle and lower parts, but it must be said in passing that much of the music contained in our text-books ranges too low in pitch for them, or any voice except a low contralto or a tenor. They must not be permitted to use their voices at full strength, and special care should be taken of those who at this age show hoarseness. With girls as with boys, the change is accompanied with periods of great relaxation of the vocal bands, and during these periods the singing tone is either very light, or very loud.

Returning to the subject of treatment of boys' voices during mutation, and premising that they have sung only in the head voice during childhood, the question arises whether they are not in many cases set to singing bass prematurely. It is obvious that during this period the voice is actually *broken*, divided in two. The lower notes are produced in the chest or man's register, while more or less of the boy's voice remains as upper tones. These tones, by the way, never are lost, they remain as the falsetto or head voice of the man.

Now the vibratory action of the vocal ligaments is much larger for the chest voice than for the head, or as we ordinarily call it, the falsetto. There is then no question that during mutation a boy can confine himself to the use of his old voice, or so much of it as is available at any time with very little strain. The tone will be light, in fact, during the active periods of laryngeal growth which characterize mutation, there will perhaps be no voice at all, owing to the congestion of the parts, but in the periods of rest separating the periods of growth, the vocal bands will respond. The compass of the head voice at this time varies largely, but it corresponds pretty closely to that of the second soprano, in three part exercises, or from C to C. If it is attempted to carry the voice down it changes to the chest register unless used very lightly.

Without attempting then to lay down positive rules for treating a voice which consists of fragments of voices, the above suggestions are made in the hope that they may receive the consideration of teachers and musicians.

CHAPTER VIII.

THE ALTO VOICE IN MALE CHOIRS.

THE suggestions of the preceding chapters are addressed directly to those who teach vocal music in public or private schools, but the general principles and rules are equally applicable to the training of soprano choir boys.

The results in beauty and power of tone which may be obtained from carefully selected choir boys can seldom be equalled in the school-room, first, because training is required to develop voices in strength and purity of tone, and the time devoted generally to school singing, one hour a week possibly, is no more than that given to a single rehearsal of choristers.

Again school singing includes all members of the class, and while it is true that there may be but few pupils in each room who cannot sing, yet there are likely to be some.

These voices, which we call monotones dis-

appear almost entirely when pupils are trained to use the head voice. Still, there is a percentage in every class in school, whose inherited musical perceptions are very feeble, and their slowness cannot but retard the general progress.

Many of the difficulties that beset the teacher of music in schools, then, are eliminated at the start by the choir trainer, when he selects boys with good voices, who sing in tune naturally.

The increase in the number of vested choirs in this country has been very rapid during the past few years, and fortunately, the ideas which have prevailed among the majority of choir-masters on the subject of the boy voice, have been just. This is easily understood when we reflect that we have made the best English standards our ideal.

The leaven of sound doctrine on the boy voice is working rapidly, and there are many choirs both in our large and small cities that are excellent examples of well-trained soprano boys.

There is, however, one problem of male choir training which is not yet satisfactorily solved, at least it is troublesome to those choirs which have a small or moderate appropriation for music.

Boy sopranos are plentiful, basses and tenors are easily obtained, but good male altos, men, not boys, are almost unknown outside of a few large cities. This state of affair has led, in many cases, to the employment of boys as altos, and they have of course sung with the thick or chest voice. It is an unmanageable and unmusical voice, it is harsh, unsympathetic, hard to keep in tune, its presence in a choir is a constant menace to the soprano tone, and were it not for the idea that there is no recourse from this voice, save in the employment of woman altos, it would not be tolerated by musicians.

There is a recourse, however, and it is at the command of every choir trainer whose sopranos have been taught to sing with the head voice alone. It is to select certain sopranos, and when the voice breaks, let them pass to the alto part, and *continue to use the head voice.*

The objection which will naturally occur, is, that no singing should be permitted during the break. Well, let us consider. The period during which the voice, in common parlance, is breaking, is a period of laryngeal growth, just as

inevitable and natural, as is the growth of the body generally. The voice may be fractured, but the larynx is not.

Every choir trainer must have observed the preliminaries to this period. A boy for instance, shows all at once a sudden increase of volume and finds it difficult to sing unless quite loudly or softly.

This shows that the vocal bands are relaxed. Following this, the speaking voice will lower in pitch, and show hoarseness at times. As soon though, as this hoarseness passes away, that is, when the congestion at the larynx has passed, the voice is better perhaps than before. Then comes another break, as we say, that is, a period of sore throat and hoarseness.

After this has passed, it may be that the boy has lost his upper notes, but can sing the lower ones with ease; the tone too, is changed in timbre. It has the color of the man's head voice; or it may be that the boy can still sing his high notes, but that the lower ones are uncertain. Voice mutation is not one continuous period of growth of vocal bands and laryngeal cartilages. On the contrary, the periods of vocal disturbance

are separated by intervals when the throat is comparatively free from irritation. These intervals may be long or short. It evidently depends upon the rapidity or slowness of the general growth and development.

There can be no doubt now, that during a time when the voice is uncertain and hoarse from the irritation of the vocal bands and surrounding parts, that singing is positively harmful, but during the intervals separating these periods, especially where they extend, as in many cases, over several months, it would seem that the singing voice might be used.

Each individual case must be observed and judged by itself. This is entirely possible in choirs. If then the choir-master is careful to observe and to humor the changing voice at all critical times; if he will insist that the boy sing very lightly or not at all if it hurts him, and if he will resolutely check any tendency to break into the tenor or chest quality, he can train in a short time a good alto force from his choir, and these young men so trained may become efficient male alto singers.

It is true that in many cases boys may be carried through the mutation period, and at the end show such light tone upon the falsetto or head voice as to be of no value. The strength and timbre of the male falsetto depends partly upon the character of the vocal bands and partly of course upon the size and shape of the resonance cavities.

Men who have voices of wide range and good volume in the chest or usual singing voice, generally possess strong head or falsetto tones, and it may be that soprano boys who possess large voices, that is those which show volume of tone along with purity, whose resonance cavities are large, will prove to develop a better falsetto, as men, than those boys whose voices are thinner. One other point remains to be disposed of. Will the use of this voice by youth or adult, injure his other voice, be it naturally bass, baritone, or tenor? No, it will not, and yet the average choir-master will most assuredly be met with this objection or fear. It is surprising that so many of those who are in the business of trying to teach voice, should be ignorant of the character and

range of the male falsetto or head voice, but in spite of this ignorance, and more or less prejudice against its use, the fear that by using it one impairs the tones of the chest register or the usual singing voice, is utterly unfounded. It is produced with far less effort and tension of the vocal bands than is the chest voice, and is physiologically perfectly safe. The mechanism which the larynx employs to produce the falsetto is just as natural as the mechanism employed to produce the chest voice. That it is an unusual voice with us is due to circumstances of musical development. The advent of the male vested choir has, however, created a demand for it, and it may be met as indicated, by keeping boys upon the head voice during mutation or so much of the time as is safe, and afterward, when the age of adolescence is past, even if some prefer to sing bass or tenor, the number of those available for the alto parts will be sufficient to meet all requirements.

CHAPTER IX.

GENERAL REMARKS.

IN the preceding chapters, dealing as they do with special subjects or subdivisions of the main topic, the effort has been to point out and to suggest some ways in which good vocal habits may be taught, and simple and effective vocal training carried on with whatever materials there may be at hand in the shape of books, charts, blackboards, staves, etc. The leading idea is the correct use of the voice; the particular song or exercise which may be sung is of no special importance; the way in which it is sung is everything.

The benefits of teaching music *reading* in the schools are a matter of daily comment. Is it, then, likely that the good resulting from the formation of correct habits in the use of the voice will fail of recognition? Not so. For the effect of good vocal training in school music would be

so general and so beneficent that even unfriendly critics might be silenced.

The first effect upon singing when the thick tone is forbidden and the attempt made to substitute the use of the voice in the thin or head register may be disappointing. It will seem to take away all life and vigor from the singing. Teachers who enjoy *hearty* singing will get nervous; they will doubt the value of the innovation. In those grades where children range in age from twelve to fourteen years, the apparent loss in vocal power will disconcert the pupils even. Never mind; the *use* of the thin register will demonstrate its excellences, and it will, if slowly yet surely, increase in brilliance and telling quality of tone.

Again, the compass downward needs to be more restricted at first than after the children have become habituated to its use. As long as there is any marked tendency to break into the chest-voice at certain pitches, the compass should be kept above them; as the tendency weakens, the voice may with due caution be carried to the lower tones, in higher grades be it understood.

The tone should grow softer as the voice descends when the lower notes will sound mellow and sweet. At first they may be quite breathy, but as the vocal bands become accustomed to the new action, the breathiness will disappear. One thing at a time is enough to attempt in music, and while a change in the use of the voice is being sought, it may happen that sacrifices must be made in other directions; part-singing, until the voices become equalized, that is, of a similar tone-quality throughout the entire compass, may, as it requires the singing of tones so low as to occasion easy recurrence to the thick voice, be so antagonistic to the desired end that it must be dropped for a time. After the use of the thin voice has become firmly established, part-singing may be resumed. How low in pitch the lower part may with safety be carried depends partly upon the age of the pupils; but until the chest-voice begins to develop at puberty, all part-singing must be sung very lightly as to the lower part or voice.

There is a class of pupils always to be found in our schools who cannot sing in tune; they

vary in the degree of their inability from those who can sing only in monotone, to those who can sing in tune when singing with those whose sense of pitch is good, but alone, cannot. While the number of entire or partial monotone voices decreases under daily drill and instruction, yet there always remains a troublesome few, insensible to distinctions in pitch; it is, in view of the possible improvement they may make, a difficult matter to deal with them; for if they are forbidden to sing, the chance to improve is denied them, and if they sing and constantly drag down the pitch, why the intonation of those who would otherwise sing true is injuriously affected.

Many who sing monotone when the thick voice is used, do so because the throat is weak and cannot easily sustain the muscular strain; if they are trained to the use of the light, thin tone, they can sing in tune. After children have been under daily music drill for two or three years in school, if they still sing monotone, it would seem inadvisable to let them participate with the class in singing. They do themselves no good, and they certainly injure the singing of

the others; for, as before suggested, constant falling from pitch will in time dull the musical perceptions of those most gifted by nature.

During the early years of school-life the pupils may often sing out of tune because the vocal bands and controlling muscles are very weak.

It is an excellent idea to separate the pupils into two classes: First, those who can sing with reasonably good intonation; and second, those who can sing only a few tones, or only one.

Let the second class frequently listen while the others sing. They will thus be taught to note both tone and pitch, and if any musical sense is dormant, this should arouse it; but, if after long and patient effort a pupil cannot sing, let him remain silent during the singing period.

Every possible effort should certainly be put forth to teach children to sing in tune, but yet it is now, and will doubtless remain true, that a small per cent. cannot be so taught.

The primary causes of monotone singing may be physical or mental; in many cases, weak vocal organs and feeble nervous power, in others lack of pitch-perception—tonal blindness.

The secondary causes include the influences of environment and heredity. The contempt in which music has been held by a portion of the English-speaking people from the time of the Reformation until quite recently, or shall we say until even now, has made its powerful impress upon opinions, tastes, and natural powers. Singing, with a part of our population, is literally a lost art, lost through generations of disuse.

It is often urged by educators that each study must help other studies. The various subjects which are taught must move along, as it were, like the parts in a musical composition, dependent upon, sustaining, and harmonious with each other. Now, while it is not within the scope of this work to discuss the relation of music to other studies in all of its bearings, it is yet clearly in line with its general tenor to suggest that the tone in singing will react upon the speaking-voice, and *vice versa.*

Now, if pupils recite and speak with a noisy, rough tone, it will not be easy to secure sweet, pure tone from them when they sing; but, on the other hand, while they may be specially

trained in good singing-tone, it will not, as a result, follow that the speaking-voice will be similarly modified. Special attention must be given to this also; but if children invariably sing with pure tone, it must be very easy to direct them into good vocal habits in speaking and reading.

It is no more necessary for children to recite in that horrible, rasping tone sometimes heard, than it is to sing with harsh tone; and if the same principles are applied to the speaking-voice as are herein given for the management of the singing-voice, in so far as they may be applicable, this harshness and coarseness may be avoided. It is the pushed, forced tone in speech or song that is disagreeable.

If teachers will consign to well-merited oblivion those two phrases, "speak up" and "sing out," and will, instead, secure purity and easy production of tone, with *distinctness of articulation*, they will do wisely. Let us not hesitate to teach our pupils to know and to feel that which is beautiful, and good, and true, that our schools may promote the growth of good taste, and stand for the highest morality and the best culture.

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